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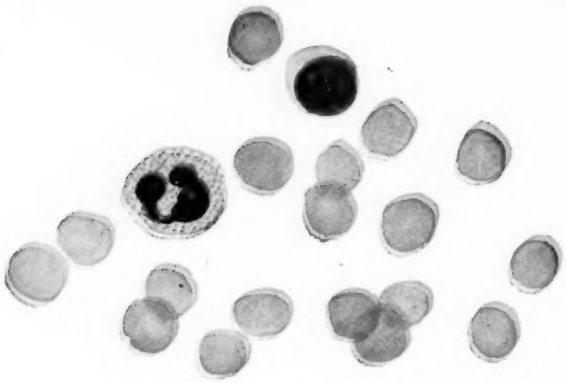

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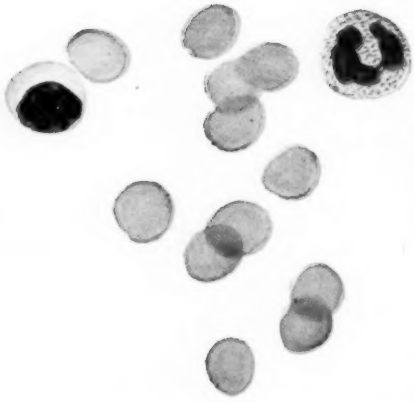

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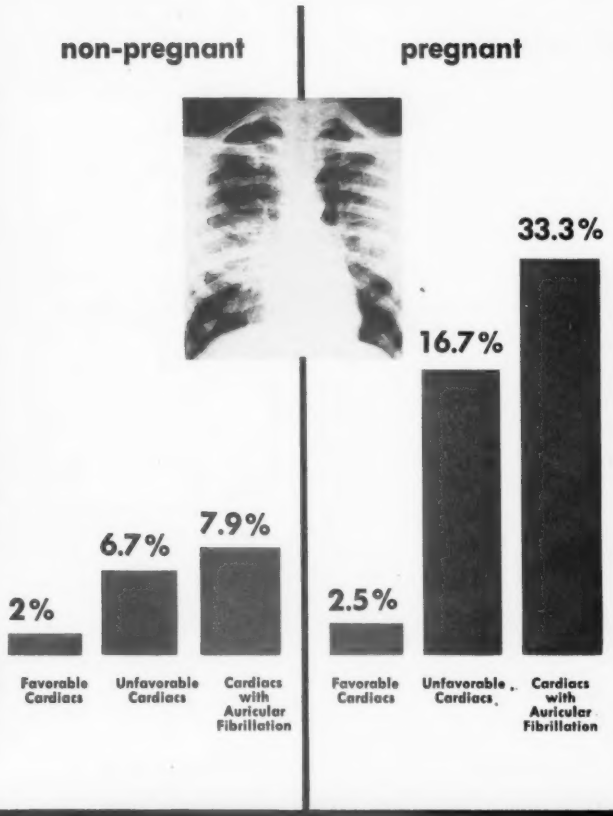

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* Hamilton, S. E., and Thompson, K. J.: The Heart in Pregnancy and the Childbearing Age, Boston, Little, Brown & Co., 1941, p. 98.

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1. Marbach, A. H.: Am. J. Obst. & Gynec. 55:511, 1948.
2. Blinick, G.; Steinberg, P., and Merendino, J. V.: Am. J. Obst. & Gynec. 58:176, 1949.

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1. Perloff, Wm. H., Treatment of the Menopause. II. In press.

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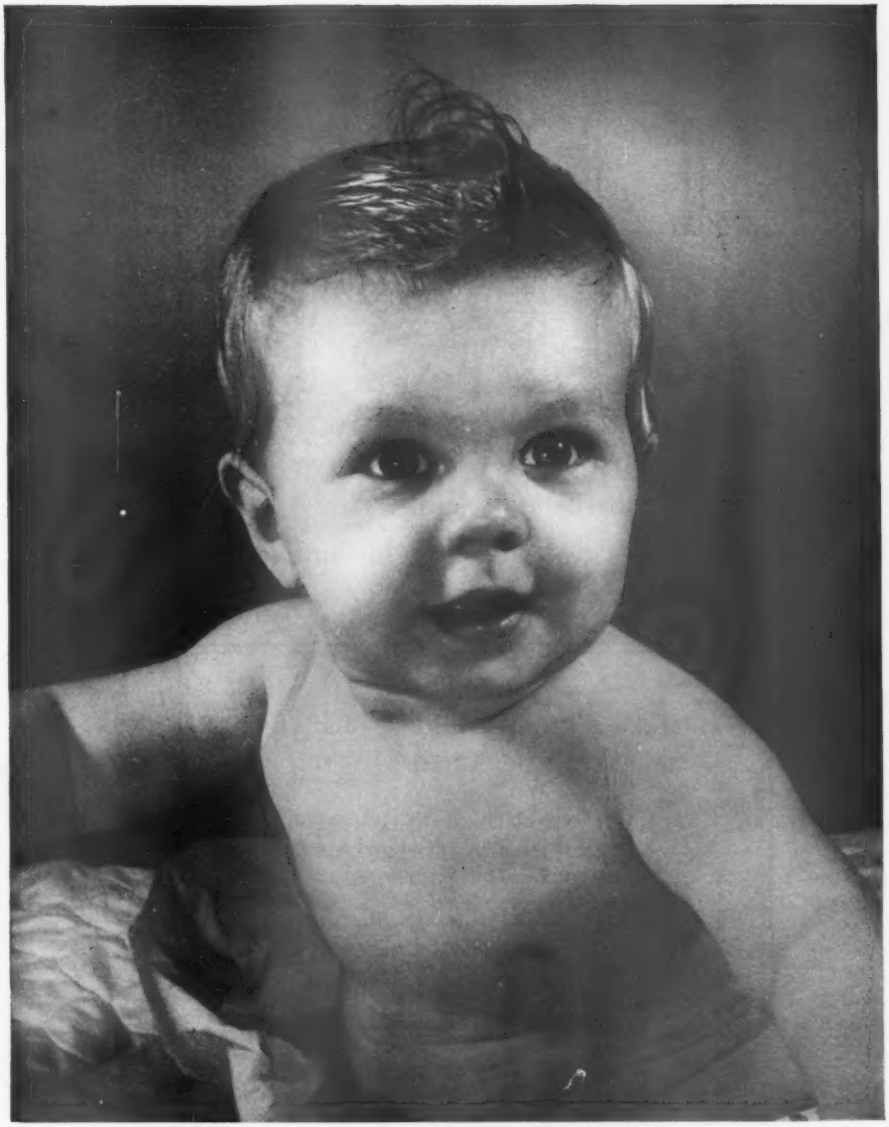

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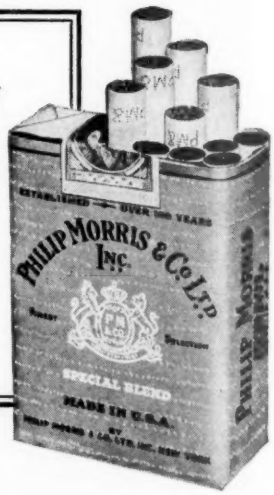

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Neoplasms of the Heart

Mildred C. J. Pfeiffer, M.D., M.P.H., F.A.C.P.

WERE IT NOT FOR the fact that progress in thoracic surgery has been such as to warrant an attempt at cure of a benign tumor of the heart, these brief remarks for internists would be essentially useless. Aside from the personal satisfaction obtained by diagnosing a rare lesion, there is now possible benefit to the patient if, in keeping with current emphasis upon professional and lay recognition of cancer, the tumors of the heart be included in the differential diagnosis of cardiac lesions. Particularly is this true when certain important signs or symptoms are at variance with an otherwise characteristic picture of a more common cardiovascular disorder. Suspicion that a neoplasm might exist would, at such a time, be appropriate, and when implemented by all available diagnostic aids perhaps be rewarding. This summary is intended to provide orientation toward the subject rather than comprehensive, detailed, or new information.

Yater,[1] Mahaim,[2] Whorton,[3] and many others have reviewed the literature and contributed to the subject. It is of interest that since Bodenheimer first[2] reported a primary spindle-cell sarcoma of the right auricle in 1865, probably fewer than 400 primary tumors of the heart have been reported, and approximately 100 of these have been malignant.[3] It is of interest that Ingram, in 1877, presented the first primary cardiac tumor in American records[3] to the Pathological Society of Philadelphia.

Primary tumors have been cited but metastases to the heart or pericardium may also occur from adjacent malignant tumors, or by the blood stream from any type of cancer anywhere in the body. Examples are, respectively, bronchogenic carcinoma and malignant melanoma. Metastatic tumors, although more frequent than primary ones, do not occur with the frequency one might expect. Yater has discussed the possible reasons why neoplastic cells fail to leave the actively flowing blood and grow in the heart.

Primary pericardial neoplasms are exceedingly rare. This fact is emphasized by the incidence of 0.0017 percent (Straus and Merliss) for all primary tumors of the heart in the United States.[4]

While primary malignant tumors may be found at any age, most of them occur between forty and sixty years of age.[2] There is no great sex difference, although sarcomas are more frequent in males than females in Yater's review.

Tumors have been reported in every part of the heart. However, benign ones arise more frequently from the left atrium, and primary malignant ones from the right atrium, [1,5] interauricular septum, or pericardium.[6]

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CLASSIFICATION OF CARDIAC TUMORS

(I) Primary tumors of the heart
- (A) Benign
  - (1) Myxoma
  - (2) Rhabdomyoma
  - (3) Other rarer tumors
    Fibroma, lipoma, angioma, papilloma, teratoma, leiomyoma, xanthoma.
- (B) Malignant
  - (1) Sarcoma—various types
  - (2) Other rarer malignant tumors
    Mesothelioma or mesothelial sarcoma of the pericardium, rhabdomyosarcoma, epicardial epitheliomas.

(II) Secondary (malignant) tumors
- (A) Carcinoma and occasional sarcoma by direct invasion
- (B) Carcinoma or sarcoma by metastasis
- (C) Systemic neoplastic disease with cardiac involvement
  - (1) Hodgkin's disease
  - (2) Lymphosarcoma
  - (3) Leukemia
  - (4) Kaposi's sarcoma
  - (5) Neurofibromatosis (von Recklinghausen's disease).

The foregoing histological classification is taken from Friedberg's textbook.[8]

The benign polypoid myxoma arising from the endocardium is the most typical benign tumor, while "round cell" or "spindle-cell" sarcomas predominate in the malignant category.[9] The myxoma has been confused with an organized thrombus, but Ackerman and Regato[6] and others state that it is a true neoplasm. Rhabdmomyomas, if multiple, may be associated with tuberous sclerosis of the brain, multiple tumors of the kidney, adenoma sebaceum of the skin, and other congenital malformations.[5,7] Hertzog[7] disagrees with the view[5] that all rhabdomyomas contain glycogen and, whether single, multiple, or diffusively infiltrative, represent disturbances in glycogen metabolism.

In size, tumors may vary from minute nodules to masses several centimeters in diameter and filling a cardiac chamber or obliterating the pericardial sac. The primary one may be very small and asymptomatic, yet producing metastases in the lungs and elsewhere, death resulting even with normal cardiac function.[1] It may cause sudden cardiac death and yet give rise to few ,if any, antecedent detectable abnormalities. Yet, even with large size or extensive myocardial or pericardial involvement, symptomatology may be minimal and misleading.

Diagnostically, therefore, these neoplasms present little which is pathognomonic. Preoperative or premortem diagnosis of a heart neoplasm has been rarely reported. Roesler has been credited with making a first clinical diagnosis of a metastatic tumor in 1924; Fishberg first reported a similar tumor in the American literature in 1930; Popp, in 1932, first published a clinically diagnosed primary tumor in the German literature, while in 1934 Barnes, Beaver and Snell in the United States did likewise.[4] According to Whorton,[9] primary malignant neoplasms of the heart have been diagnosed antemortem four times. Lubschitz et al,[11] claim that there are 13 cases (including their own) of primary cardiac neoplasms diagnosed before death.

Since there is but one case of a cardiac neoplasm (primary rhabdomyosarcoma) in the pathology files at Woman's Medical College, a few of the often bizarre clinical features reported by various authors will be mentioned.

Much depends upon the anatomical location and the physical properties of the tumor. The outline prepared by Yater still reflects the clinical types to be found (see chart):

Yater cites the case of a 27-year-old man (Beck and Thatcher) who had abdominal symptoms and cachexia, but only a soft precordial systolic murmur. Autopsy showed generalized purulent peritonitis from a sarcomatous intestinal mass that had perforated. The mass had its origin in an extensive left auricular sarcoma, which also involved the left ventricle and outer myocardium.

CLINICAL TYPES OF TUMORS

A. Clinical types not suggestive of tumor of the heart
   (1) Absence of symptoms referable to the heart
   (2) Symptoms of cardiac embarrassment terminally
   (3) Symptoms of congestive heart failure
   (4) Sudden death
   (5) Symptoms suggestive of subacute bacterial endocarditis

B. Clinical types suggestive of tumor of the heart
   (1) Heart block
   (2) Symptoms referable to location of the tumor other than heart block
   (3) Symptoms of cardiac dysfunction developing without apparent cause in a patient with a known malignant process
   (4) Accumulations of hemorrhagic fluid, pericardial and pleural
   (5) Suggestive roentgen observations.

Acute cardiac insufficiency occurring shortly before death and apparently unrelated to the previous clinical history has been described.

Severe, progressive congestive heart failure is relatively important as suggesting a tumor.[1,10] Especially is this true when the etiology is not clear, when usual therapy is of little benefit, when once having occurred the course is rapidly downhill. Heart block, signs of mitral stenosis which might be produced by a pedunculated tumor, or pericardial effusion, unless otherwise easily explainable, would increase the suspicion that a neoplasm exists. If there is evidence of malignant tumor elsewhere, then the heart should be thought of as being involved in the process. Orthopnea, dyspnoea, venous engorgement, with or without peripheral edema, and serous effusions may be due to involvement of the heart by the malignant condition; but if primary tumor masses are present in the lung, or if the superior vena cava is occluded by mediastinal or lymph node enlargement, the symptoms could be caused by these.

Sudden death, with or without previous cardiac symptoms, has also occurred with some degree of regularity. Apparently, the immediate cause is not to be found in tumor emboli occluding the coronary vessels,[1] but rather in the blocking of the orifice of the mitral or tricuspid area.

The same mechanism may account for attacks of syncope or convulsions associated with shock, cyanosis, coldness of the extremities, and perhaps necrosis of the tip of the nose, fingers, or toes, when a pedunculated polyp, especially a polypoid myxoma of the left atrium, acts in ball-valve

fashion over the mitral valves. Changes in position may bring on an episode.

Superior caval obstruction as by pericardial tamponade by tumor or effusion, with resultant cervical venous engorgement, liver enlargement, dyspnea, rapid and weak pulse, has been described. Rapidly recurring, sersanguinous pericardial effusion, with or without a persistent pericardial rub should arouse suspicion. The demonstration of tumor cells in the aspirate by either Shorr's[10] or Papanicolaou's stain aids diagnosis. Pleural effusion may also be present, especially if there has been direct extension of the tumor to the pleura. Roentgenographic examination might reveal a bottle-shaped shadow.

Primary tumors may be considered if signs of pulmonary or of tricuspid stenosis become manifest. The former are usually congenital and the latter rare.[4] Otherwise, valvular murmurs may be loud, are bizarre, suggesting a rheumatic (mitral) or subacute endocarditis etiology, or be entirely absent. There may be a great variation in the quality of the murmur, especially with change in position. The murmurs may be dependent upon actual involvement of the valve by tumor tissue, or upon functional aberration attending dilatation of an orifice by nearby disease.

Disturbances of rate and rhythm may occur rather commonly and include auricular fibrillation, flutter, tachycardia, premature beats, heart block, or bundle branch block. These derangements may be transient but later persist. Adams-Stokes syndrome may be present. Involvement by the tumor of the impulse initiating and conducting mechanisms and especially of the right auricle may account for these findings. Again, if the etiology is not clear, the occurrence of such disturbances should suggest the possibility of a tumor.

While pain simulating angina pectoris or coronary artery disease can occur it, too, may be atypical and strangely persistent. There may be pain from pericardial involvement.

If cyanosis is present at birth, and there are cardiac murmurs, mental retardation, and other defects, congenital rhabdomyomatosis is to be considered.

Electrocardiographic changes are variable and not especially diagnostic, although Barnes et al[12] used electrocardiographic findings as the basis for diagnosis of a tumor invading the bundle of His and producing auriculoventricular dissociation suddenly in the absence of any other etiologic condition. Auricular tumors may produce auricular fibrillation, flutter, heart block, bundle branch block and P wave abnormalities. Pericardial sarcomas may produce elevation of RS-T segments and inversion of T waves in leads I and II. Tracings may suggest myocardial infarction.[5] There may be no changes; those which do occur often are transient.

Roentgenographic examination can be helpful in diagnosis.[6] However, differentiation from other mediastinal or thoracic masses may be impossible. Enlargement of the right auricle, as in malignant tumors, or of the left, as in myxoma, a pericardial effusion or generalized enlargement, peculiar irregularity in the cardiac outline, or no essential change may be demonstrated. Electrokymographic or roentgenkymogram studies,[13] angiocardiography,[14] tomography,[6] fluoroscopy,[5] or barium swallow, and pneumopericardium[11] might help to clarify the diagnosis.

Thoracotomy[14,6] is justified and is being done more frequently as a diagnostic aid. Cytologic examination[10] of aspirated pericardial fluid is helpful when specimens are well collected and examined by one experienced in this method.

It is obvious that many diseases, both in or near the heart, or of a systemic nature, might be confused with cardiac neoplasms. Because of widespread embolic phenomena associated with some of the tumors, and because fever, leukoytosis, increased sedimentation rate, joint pains, "sore throat," cough, cyanosis, and dyspnea, [1,5] may be part of the symptomatology, rheumatic fever and subacute bacterial endocarditis have been diagnosed erroneously. At a medical staff meeting, in addition to the above, sarcoidosis, periarteritis nodosa, lupus erythematosus, tuberculosis, Kaposi's sarcomas and lymphoma were introduced into the discussion, but no one suggested the possibility of an embolus-producing myxoma of the left ventricle in a ten year old child as the cause of symptoms and death. The resident in medicine has successfully confused the attending staff[15] by simply presenting the case report of Young and Hunter![16]

To summarize, then, a metastatic tumor of the heart might be suspected if, in the presence of malignant tumor elsewhere, especially in the lungs, cardiac changes become obvious for the first time or are atypical of more common cardiac lesions. Additional diagnostic features, according to Friedberg, are:

"(1) The rapid onset of congestive heart failure without apparent cause and its unabated progression despite treatment.

"(2) The development of signs of fibrinous pericarditis or pericarditis without other apparent cause. The pericardial rub, if present, persists for many days or weeks. A blood-tinged pericardial tap is confirmatory and the finding of tumor cells diagnostic.

"(3) The occurrence of paroxysmal or persistent auricular fibrillation or of heart block in the absence of the usual causes of these disturbances.

"(4) The development of cardiac tamponade as indicated by dyspnea, engorged veins, hepatic enlargement, falling blood pressure and pulse pressure, tachycardia and pulsus paradoxicus."

Primary tumors may also give rise to the same changes, or be entirely silent, even producing sudden death. An atypical heart disease picture; intractable, rapidly progressive, medication-resistant congestive failure; heart block; Adams-Stokes syndrome; convulsions; suddenly occurring disturbances in rate or rhythm, especially if associated with dyspnea and related to changes in position; signs of mitral stenosis without an adequate history of rheumatic fever, particularly if associated with ball-valve signs, may indicate polypoid myxoma, fibroma, or sarcoma of the left auricle. If a tricuspid murmur is heard, or congestive right-sided failure without apparent cardio-pulmonary disease is present, or there is superior vena caval obstruction with edema and cyanosis of face and neck, and venous engorgement of the neck with or without dilated collateral veins on the chest wall,[5] then a right auricular neoplasm should be considered. A typical case is that reported by Shelburne.[17]

Pericardial tumors may cause pain, dyspnea, orthopnea, and cyanosis, or may be associated with a friction rub, and cause rapidly recurring sero-sanguineous pericardial effusion which may have diagnostic malignant cells demonstrated in it. The effusion or strange bulges might be seen roentgenographically.

If a child is retarded, has cardiac enlargement with or without murmurs, has other congenital defects or adenoma sebaceum, or suffers from convulsive seizures or Adams-Stokes syndrome, multiple rhabdomyomata should be considered.

Prognosis in malignant tumors is poor. Irradiation, nitrogen mustard, radioactive P32, urethane and newer chemotherapeutic agents, including cortisone, adrenocorticotropic hormone, androgens, and estrogens, might be tried if a sensitive tumor is present (e.g., Hodgkin's disease, metastatic prostate, or breast cancer). Symptomatic treatment, including pericardial aspiration, may prolong or ease the life of given patients. Surgery, however, especially since Beck,[18] in 1942, successfully removed two tumors from the heart, should be destined to cure benign cardiac neoplasms provided they are diagnosed early and accurately.[5,6,14,20] Thus, surgery should be thought of by the internist if he encounters a patient similar to the 37 year old woman described by Gösta von Reis[19] as dying in the fourth attack of pulseless unconsciousness, who exhibited signs and symptoms already discussed: a mitral murmur in the absence of a rheumatic history, enlargement of left atrium and right ventricle, prolonged conduction time and right ventricular preponderance with expanded P waves, negative blood cultures, fever, elevated sedimentation rate, dyspnea. Autopsy revealed an endocardial myxoma of the left atrium.

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Periodontal Disease in Children

Sylvia E. Zappler, M.D., D.D.S.

Dentistry is a branch of medicine, and close cooperation between physicians and dentists is required to bring about the prevention of dental disease.

The two most prevalent dental diseases are caries and periodontal disease. Caries is a disease of the hard structures of the teeth, mostly of the enamel and dentin. Periodontal disease is a disease of the structures surrounding the teeth. These structures, collectively called the periodontium, consist of (1) the marginal gingiva hugging firmly the neck of the teeth; (2) the cementum covering the roots of the teeth; (3) the periodontal membrane stretched out between the cementum and the alveolar bone, fixing the tooth to its socket; and (4) the alveolar bone forming the socket of the teeth. All these tissues are nourished by an abundant network of blood vessels.

The anatomic relationship of the periodontal structures is so complex that if one becomes diseased all the others may suffer accordingly unless the disease is arrested in its initial stage and there is no interference with the nutritional supply to the tissues.

Statistical studies show that more teeth are lost through periodontal disease than through caries. To most people periodontal disease means bleeding gums and loose teeth. Yet these are but two signs of some types of periodontal disease, of which there are many types. When the signs and symptoms of periodontal disease, as anemia, or hyperemia, or edema of the gingiva, or bleeding, or migration of the teeth, are detected at the beginning, the disease can usually be cured; many teeth can be saved; dental crippling can be prevented; and the dental health of the patient can be restored.

Types of Periodontal Disease

According to the pathologic picture we have (1) inflammatory changes, for instance, gingivitis, an inflammation of the gums, or periodontitis, an inflammation of the deeper periodontal structures; (2) progressive changes, as hyperplasia of the gingiva; (3) regressive changes, as in alveolar atrophy, where bone is lost, the gums recede, and the teeth become loose in their sockets; this is the case in physiologic atrophy of old age, but alveolar atrophy is also seen in young people and is then named precocious alveolar atrophy; and (4) degenerative changes, as in periodontosis, in which degeneration of periodontal structures occurs and the teeth become loose and are exfoliated without pain, bleeding, or suppuration.

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Types of Periodontal Disease in Children

All types are seen, but because of peculiarities in the anatomy and physiology of the periodontal structures during growth and development, each age period of childhood presents some variations in the clinical manifestations of the disease.

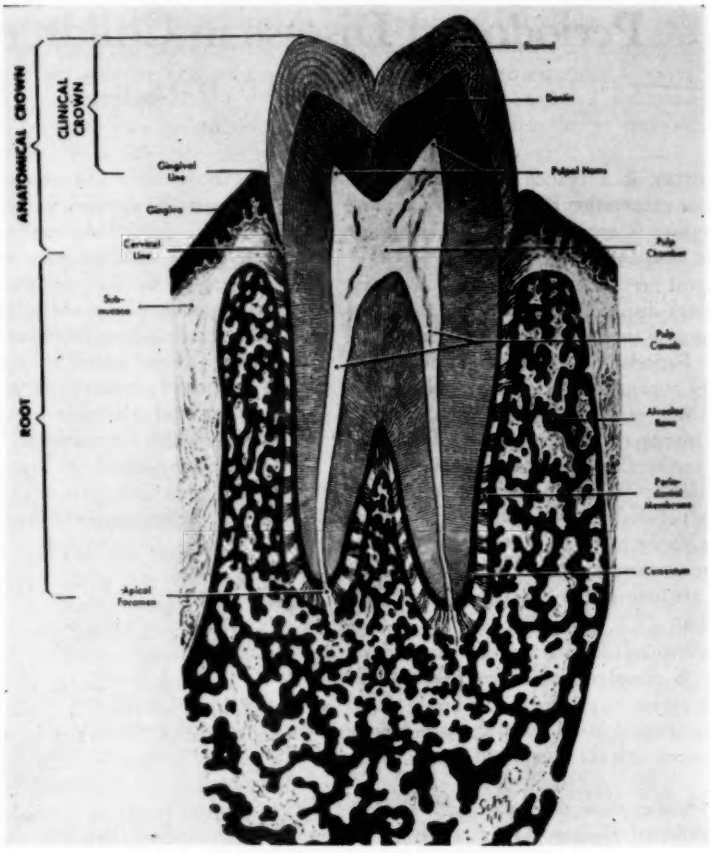
As the surface of the gingiva during early childhood is less hornified, it is more vulnerable to noxious influences. Consequently, gingivitis is frequently found in younger children. This gingivitis, however, will quickly subside because of the greater recuperative power of the child. The inflammation will seldom spread to the deeper tissues; but should systemic disease be present and the resistance of the child be low, the progression of the inflammation to the deeper tissues may be rapid and the destruction far greater than would occur in the adult, because of the lesser density of the alveolar bone in children.

Progressive changes, as hyperplasia of the gingiva, are seen frequently in children. During the period of growth and development the tendency to progressive changes is greater than the tendency to regressive or degenerative changes. Thus, regressive or degenerative changes in the periodontium of the child are rarely observed, but after puberty these changes increase in frequency as the pathosis of the child begins to resemble more closely that of the adult.

Causative Factors of Periodontal Disease

The causative factors of periodontal disease are local and systemic, but usually both are combined in the production of periodontal disease.

The local factors in the child patient pertain mostly to the changing dentition, shedding of the



Schematic Drawing Illustrating a Longitudinal Section of a Tooth and the Supporting Structures (Reproduced by courtesy of Doctors Zeisz and Nuckolls, *Dental Anatomy*, The C. V. Mosby Company, St. Louis)

deciduous and eruption of the permanent teeth. In difficult eruption, inflammation of the gingiva around the erupted tooth is seen, most often around erupting molars. Loose deciduous teeth and roots may cause injury to the gingiva during mastication. Developing malpositions and malocclusions may lend themselves to periodontal disease through abnormal stress brought to the teeth during mastication, creating food impaction areas. Orthodontic appliances (orthodontic treatment being done chiefly during childhood) are other causative factors in producing periodontal disease in children if proper mouth hygiene is not practiced. Deep caries causing pain during mastication forces the child to unilateral mastication, making the afunctional side prone to periodontal disease.

Hypertrophied adenoids and tonsils, a problem of childhood, lead to mouth breathing and to inflammation and hyperplasia of the gingiva, which is ascribed to the drying out of the gingiva and the irritant action of air and dust.

Habits like thumb sucking, tongue thrusting, and fingernail biting may deform the jaw bones; and the abnormal stress which is brought to some teeth may cause the breakdown of periodontal structures.

Specific infections of the oral cavity with streptococci, staphylococci, and fusospirochetal bacilli (Vincent's infection) may cause severe inflammation of the gingiva with sloughing, ulcer formation, spontaneous hemorrhages, and pain. These infections occur mostly in children's institutions, where not enough attention is paid to proper oral sanitation, and among debilitated children. They may progress to noma, or cancrum oris, with loss of the alveolar process and consequent loss of teeth.

Herpetic gingivostomatitis is an infection with herpes simplex virus and occurs most frequently in early childhood. The herpetic ulcerative lesions, often to be observed first at the site of erupting teeth, are accompanied by a painful gingivitis. In all the acute exanthematous diseases and in many other acute infections, periodontal lesions may be found in the oral cavity. There may be but a slight gingivitis caused by dryness of the mouth and by the liquid or soft diet which has no cleansing effect on the gums; or the periodontal involvement may affect the alveolar bone and in rare cases of measles, scarlet fever and diphtheria may cause loss of teeth.

Diseases of the gastro-intestinal tract, for instance, chronic diarrhea and celiac disease, may lead to serious periodontal disease owing to nutritional deficiencies or disturbance in calcium metabolism.

In cardiovascular disease, as congenital heart disease, bacterial endocarditis, and especially rheumatic heart disease, the anemia or congestion of the gingiva predispose to periodontal disease.

The first signs of a blood dyscrasia, neutropenia, for instance, may manifest itself as gingivitis. The leukemias in adults produce characteristic periodontal lesions, which are rarely to be found in children, because the course of the disease in children, is usually so rapid that lesions in the oral cavity seldom have time to develop.

In disturbances of cellular lipid metabolism, Gaucher's disease, and Hand-Christian syndrome, we see loosening and loss of teeth by accumulation of abnormal cells in the periodontal structures. In some skin diseases, for instance, erythema multiforme bullosum (Stevens-Johnson Disease), involvement of the periodontal structures is reported.

Malnutrition may lead to vitamin deficiencies which play an important role in the production of periodontal disease. Vitamin C deficiency causes scurvy with the characteristic picture of the bluish red, spongy, bleeding, painful gingiva. Vitamin B deficiency leads to exfoliation of the teeth, as in beriberi. Vitamin D deficiency leads to rickets with deformities of the jaws, malocclusions, and a red line in the gingiva around the neck of the teeth and predisposition to more serious periodontal disease.

Disturbances of the endocrine system are also factors in the production of periodontal disease. In hypothyroidism (cretinism) swollen inflamed gums and a great amount of calculus formation are seen. In hyperparathyroidism, primary and secondary, cysts in the jaws are characteristic features, as are also loosening and loss of teeth. In diabetes, mainly in untreated cases, all types of periodontal disease are observed.

During puberty, a generalized gingivitis is found in both boys and girls so frequently that Wesky gave it the name of Pubertaetskatarrh. Hyperplasia of the gingiva, marked hyperemia, swelling, and a tendency to hemorrhages are observed and are ascribed to the sudden preponderance of the gonadal hormones, the abrupt rise in blood pressure, and psychic and emotional disturbances during this age period. After puberty, degenerative and atrophic changes occur with greater frequency.

To recapitulate: Periodontal disease in children is far from rare. All types of periodontal disease of the adult are found also in the child. It is the responsibility of the dentist, especially the pedodontist, to detect the early signs and symptoms of periodontal disease in children and to institute treatment at once: a procedure which in many cases might prevent periodontal disease in later life.

Here medical cooperation is needed. The dentist does not often see the child in its early years. Usually the child is taken to the dentist only after damage to the dental or periodontal tissues has occurred. The family physician or pediatrician, however, has the opportunity to watch the growth and development of the child from early infancy, to guard its general health, to apply all modern methods in the prevention of disease, and to treat disease in its early stages.

There is no general health without dental health. It is, therefore, urgent and imperative that the physician send the child to the dentist or pedodontist in early childhood (two to three years of age). Let the dentist do his share in the maintenance of the child's general health. Give him the opportunity to watch the growth and development of the child's oral tissues, to guard the health of the dental and periodontal tissues, to apply all modern methods in the prevention of caries and periodontal disease, and to treat these diseases in their initial stage. Physicians and dentists have a common goal: the health and well-being of the children. They should work together to attain that goal.

Summary

The various types of periodontal disease in children, which is not rare, are briefly described; their etiology and signs and symptoms are discussed; and the need for cooperation between the physician and the dentist, so that treatment can be started early, is emphasized. Dentistry is a branch of medicine and only through such close cooperation can dental disease be prevented.

Ovaries and Anterior Pituitary at the Climacteric

Esther M. Greisheimer, M.D.

DURING THE REPRODUCTIVE LIFE of women, graafian follicles develop, shed ova, and progress to corpora lutea. In addition to the development and delivery of ova, two types of hormones are produced by the ovaries; these hormones influence the uterus, vaginal epithelium, and mammary glands. Ovarian functions are subject to control by the anterior pituitary through its gonadotrophic hormones. The follicle-stimulating hormone (FSH) of the anterior pituitary stimulates follicular growth and the production of estrogen. Estrogen is the hormone essential to the development of the accessory genital organs and secondary sexual characteristics. The concentration of estrogen in blood and urine reaches a maximum about the time of ovulation or midpoint of the cycle. A second peak is noted shortly before the appearance of the menses.

The luteinizing hormone (LH) or interstitial cell stimulating hormone (ICSH) of the anterior pituitary stimulates the production of progesterone by the corpora lutea. Progesterone produces changes in the endometrium which prepare it for the reception and implantation of the fertilized ovum, aid in the maintenance of pregnancy, and contribute a share in the development of the mammary glands. Progesterone is present in the blood in such minute amounts that it cannot be satisfactorily demonstrated at present. It is excreted in the urine as pregnandiol[1] and reaches a peak immediately prior to the menstrual flow, in non-pregnant women.

When estrogen reaches a certain concentration in the blood it inhibits the production of FSH and stimulates the formation of increased amounts of LH. This reciprocal relationship is exceedingly important; it makes one realize that the administration of estrogen therapeutically depresses certain functions of the anterior pituitary. It also brings to the attention the fact that ovarian deficiency may be due either to a failure of the ovaries or to hypofunction of the anterior pituitary. An example of the latter is Simmonds' disease, in which ovarian failure is secondary to atrophy or degeneration of the anterior lobe of the pituitary.

As the ovaries age,[2,3,4] ovulation and luteinization cease first, leading to a cessation of production of progesterone. The follicles may continue to grow for a time, with a production of estrogen, but sooner or later the ovaries fail to respond to the gonadotrophic influence of the anterior pituitary. The media of the blood vessels becomes thicker, with a consequent narrowing of the lumen; the vessels of the hilum and medulla become sclerosed. The cortex of the ovary becomes thin, while the medulla shows a relative increase in thickness; fibrosis of the capsule is evident.

The failure of the ovaries to produce estrogens is the most significant sign of the climacteric. This constitutes the removal of the growth stimulus and permits atrophic changes in the accessory organs of reproduction. In some patients the mucosa of the uterus is thin and atrophic; in others the mucosa varies in thickness and the Swiss-cheese pattern of hyperplasia of the retrogressive type is evident. Still others show scattered patches of active hyperplasia. Various combinations of the above changes may be seen in different parts of the same endometrium.[5]

Since the mucosa of the vagina likewise undergoes atrophic changes, the vaginal smear method of study can be used for the estimation of the effects of estrogenic hormonal therapy in women.

Appreciable quantities of estrogenic substances appear in the blood and urine of many women after the climacteric; these are insufficient to prevent the atrophic changes in the accessory reproductive organs. It is possible that these estrogens are produced

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in the adrenal cortex, since they are demonstrable not only after the climacteric but also after surgical removal of both ovaries.[2]

Hock[6] states that deficiency of estrogens causes degenerative changes in the urethra, and that these make the tissue more susceptible to infection. If inflammation ensues, nerve endings may be irritated and give rise to some of the symptoms of the menopause. Many patients who are not relieved by hormonal treatment can be benefited by local treatment of the urethra.

The chemical and anatomical changes in the anterior pituitary after the climacteric are peculiar to women; they occur in no other mammal. The chemical change is an increased secretion of the gonadotrophic hormone; this appears in the blood and urine in concentrations which may be twenty or more times greater than during the reproductive period. It is not known if this increased production is due to overactivity of the anterior pituitary following removal of the inhibitory or regulating influence of the ovaries or to non-utilization of the hormone;[1] but cytological evidence favors the former.

The anatomical change includes an increase in size of the pituitary gland and cytological features which indicate increased activity.[7] Cytoplasmic granules are thought to be precursors of the secretions elaborated by the cells. Hypertrophy of the Golgi apparatus indicates that the cells are actively forming the secretion. Varying degrees of degranulation together with an increase in distribution of mitochondria indicate active secretory discharge from the cells. Increased elaboration and increased discharge may occur simultaneously. In the anterior pituitary typical of women of 65 years of age one can see all of the above cytological evidence of hyperactivity of both acidophiles and basophiles. These cells are the source of the increased concentration of gonadotrophic hormone found in women after the climacteric.

In men of the same age the anterior pituitary exhibits a reduction in the number and size of both the acidophiles and basophiles, with an increase in the chromophobes. The basophiles are filled with vacuoles. The cytoplasm indicates inactivity of the cells, with every sign of retrogression. Part of the hypofunction may be due to inanition ond physiological castration which characterize age.

In closing, it seems imperative to reiterate the fact that the administration of any hormone depresses the activity of the gland which normally produces it; in estrogen therapy not only are the ovaries depressed, but the anterior pituitary is depressed, in addition, by the higher level of estrogen in the blood.

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The Chronically Discharging Ear

MEDICAL MANAGEMENT

Dorothy P. Danno, M.D.

VARIOUS ESTIMATES have been made of the incidence of chronically discharging ears. In Great Britain, Cullom has reported 8.8 percent incidence, and Johnson 3 percent in the general population and 5.3 percent in the factory group. For the United States separate figures of 2 and 4 percent have been given. In numerical description this means that there are between 2,000,000 and 5,500,000 cases in the United States alone.

The symptoms are usually diminished hearing and discharge of variable amount or odor. Pain is absent unless there is retention of pus brought about by granulations or dried secretions; pain and other symptoms such as headache or vertigo suggest intracranial extension or caries of the temporal bone. The most common complications include profound deafness, labyrinthine invasion, meningitis, or brain abscess. Aside from the ever present threat of these sequelae, this condition makes the patient rejectable for life insurance, employment, or military duty, and also presents esthetic features if there is much odor to the discharge.

The diagnosis is made on the history, clinical course, appearance of the ear structures, and functional hearing tests. Roentgenograms of the mastoid area usually demonstrate an arrested or sclerotic type of bone. A cholesteatoma may be identified. The diagnosis is usually evident, but there may be only slight variations from normal. Occasionally a patient who states he has been treated for fungus infection is found to have an attic perforation.

Some authors stress the diagnostic value of the location of the perforation, correlating an anterior defect with eustachian disease, a posterior marginal defect with the presence of a cholesteatoma, and multiple perforations with infection by the tubercle bacillus.

Cultures of ear discharge have demonstrated almost all known bacteria. The bacterial content may vary from time to time, and usually several varieties of organisms are present at the same time. There is much diversity of opinion regarding the value of cultures of this discharge.

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In regard to treatment, of first importance is the knowledge that this is a preventable disease and that its presence indicates negligence on the part of someone, be it parent, patient, doctor, or specialist. Almost every case of chronic otitis begins as an acute otitis, and becomes chronic when, after days or weeks, all signs of acute inflammation have disappeared, and the only symptoms remaining are deafness and discharge.

It is worthwhile to digress at this point to remind ourselves that there still remains our duty to educate not only the patients but physicians in other fields of medicine to a realization that treatment is imperative. It is appalling to find there are still many patients who believe it is an error to treat an ear and that it should be allowed to drain, and that there are actually physicians who are indifferent to the care of this condition.

The value of care and close supervision of every case of acute otitis cannot be overemphasized. Continuance of an infection may be due to constitutional disturbances, such as tuberculosis, lues, diabetes, or anemia. Often attention to the general condition of the patient will bring about marked diminution in severity of the infection. All of us who have observed the course of a fulminating severe infection prior to the advent of chemotherapy well remember the dramatic improvement that occasionally followed a transfusion of whole blood.

Pieri recently reported two cases of chronic otitis which had not responded to usual conservative treatment and radical mastoidectomy, but were cured by hypodermic injections of a million units of Vitamin D_2 weekly and intravenous calcium daily.

Under general treatment we should discuss the currently popular administration of sulfonamides by mouth, of penicillin or streptomycin by injection. Present knowledge would indicate that little influence is exerted by these drugs on chronic disease within the ear itself. These powerful weapons would best be reserved for early acute stages of ear infection, or for complications which have given rise to dangerous spread of the infection.

In considering general treatment, or even more local treatment, every patient should be thoroughly studied to ascertain the local reason for the continuation of the discharge.

Persistence of suppuration after the acute process has subsided may be due to disease of the bone, in which the original infection was of such severity that there has been bone destruction, either in the mastoid cell system or in the middle ear itself, affecting the annulus or ossicular chain.

The next condition which favors persistence of infection is the formation of granulations after the destruction of the lining membrane of the middle ear, and production of a polypus of increasing size.

With the unfortunate presence of a marginal perforation, an ingrowth of epithelium from the external auditory meatus leads to the formation of a cholesteatoma, a mass which is inert itself, but which by steady pressure of growth may erode any of the vital structures surrounding the middle ear.

According to Diamant this often repeated sequence may not be correct. He visualizes rather a "cholesteatoma germ" as a single cell or as a group of flat epithelial cells which may occur in the mucosa of the middle ear without the simultaneous presence of a marginal perforation or of chronic otitis. Perhaps the marginal perforation is produced later from within by the destructive action of a growing cholesteatoma unassociated with otitis at first. Since a cholesteatoma is found in an ear with a small cellular system its presence may be connected with factors which entail the development of the smallest cellular systems. Persistent discharge may be due to reinfection by adjacent structures such as infected adenoids or sinuses. Everyone is familiar with the response obtained by adenoidectomy in the continually draining ear of an infant even with a surgically clean mastoid area.

Perhaps the most neglected phase of treatment is the failure to care for a coexisting sinusitis. Persky was absolutely correct in stating that acute or chronic sinusitis plays an important role in reactivation or maintenance of a chronic otitis media. Turner reported 42 cases of mastoiditis in which 28 had chronic sinus infection, usually on the same side. Constant reinfection of the eustachian tube may prolong the infection. Transforming the diseased nasopharynx into a healthy one by removal of infected adenoids, by treatment of sinus infection, or by both, is an obvious antecedent to the successful treatment of the otitis media itself.

In regard to purely local treatment of the infected ear, we recognize that the offering of so many methods of treatment bears eloquent testimony to the fact that no one method is universally satisfactory. Actually there is no one method of treatment; each ear is an individual problem demanding study. It is well to remember that any treatment offered is directed towards assisting nature. It resolves itself into attacking the disease in superficial or accessible situations, thereby helping the individual to make the best use of his ability to repair damage.

Occasionally a polypus, by blocking an opening through the tympanic membrane, dams back discharge and makes impossible the proper drainage which is essential to recovery. Removal of such a polypus materially aids recovery.

If the presence of granulations or other signs of deep-seated disease cannot be determined with certainty, treatment should be planned to assist nature as far as possible by maintenance of strict cleanliness of the ear. The discharge should be removed regularly and meticulously, the frequency of treatment being determined by the amount of drainage. After cleansing, insufflation of powders is practiced, and the patient is instructed to instill various types of drops into the ear between office visits. Granulations should be destroyed by cauterization with chromic acid, trichloracetic acid, or stick silver; polypi may often be removed with an ear snare, cautiously, of course, and their bases should be cauterized.

Unger recently presented a method of cleansing the ear which was based on recognition of the fact that the infected ear and mastoid cavity are a pneumatic system of cells, irregular, tortuous, and connected by channels almost capillary in size. These ramifications explain the failure to clear up an infection because they interfere with proper cleansing which is essential in treatment. Unger uses a pump to create suction and pressure up to 90 mm. of mercury after instillation of a cleansing solution of 1 percent peroxide, 2 percent boric acid, or isotonic saline.

The powders used locally are as varied as the human imagination permits. Probably the most popular is still boric acid which was introduced into aural practice by Bezold in 1879. Gruber, in his *Textbook of Otology* published in 1890, lists in addition to boric acid, a mixture of boric acid with which we are all familiar, the Sulzberger boric iodide preparation. The solutions recommended are boric acid in alcohol, 10 percent silver nitrate, 2 percent salicylic acid, 1 percent carbolic acid, corrosive sublimate, 1 or 2 parts in 1,000, potassium permanganate, 0.1 to 1 percent. Even then—60 years ago—these medications were effective only when proper preparation of the infected ear preceded their use. Grayson's text, published in 1902, insisted on thorough cleansing of the tympanum, and collateral treatment of the nose and nasopharynx. Neglect of these measures, he pointed out, would hamper if not

actually defeat the curative purpose of strictly aural measures. Great emphasis even then was placed on thorough removal of pus by suction with the aid of the Siegel otoscope and injection through the eustachian tube. He stressed the necessity for removal of granulation tissue, polypi, and carious ossicles.

As various new therapeutic drugs are advanced, they are tried on the infected ear. First reports, as with use of sulfa powders, are enthusiastic; then it becomes fashionable to use glycerite of hydrogen peroxide, furacin, and aureomycin. With all these new drugs, it still remains paramount to prepare the affected area for contact with the drug to be tried. These drugs are used alone as powders, in aqueous solutions or dissolved in alcohol and glycerine, and are occasionally combined or alternated with glycerite of hydrogen peroxide. There may be some harm in these procedures by sensitization of the individual, or by evolving a strain of bacteria which are resistant, making the drugs useless for the treatment of complications in which they seem to be most effective.

Two other adjuncts to therapy are mentioned in the literature, zinc ionization and radiation therapy. Zinc ionization consists in passing a current of 5 to 10 milliamperes through the ear filled with 2 percent zinc sulfate solution. A coagulum is formed on the discharge, and secretions diminish rapidly. This treatment has no place where bone or deep seated disease is present.

The rationale for treatment by radiation according to MacKee is the same as that for chronic granulation tissue in other parts of the body. The effect would be related to the degree of leukocytic infiltration, the rate of cellular hyperplasia, the known sensitiveness of lymphocytes, and the degree of proliferation of connective tissue. Radiation has also been tried for the removal of granulation tissue after a radical mastoidectomy; in a few of these cases, hearing has improved.

Summary

It appears at present that, instead of placing all our confidence in any of the miracle drugs, it is still most important to prepare the infected area for treatment, first by prevention of reinfection and then by careful cleansing of the diseased area by suction, wiping, or attic irrigation, plus removal of all accessible granulations, polypi, and carious ossicles. There is no question but that, after meticulous cleansing, satisfactory response may follow the application of any appropriate medication.

Recent Advances in Endocrinology

Rita S. Finkler, M.D.

WITHIN THE LAST FIVE YEARS important developments have occurred in the field of endocrinology. Since it is difficult to give an exhaustive review of these developments in one article, an attempt will be made to emphasize only the most important achievements as they apply to clinical medicine. We shall be obliged then to limit ourselves to the most outstanding progress made in the field of the thyroid, pituitary, and adrenal, and a short discussion on the role of sex hormones in the etiology and treatment of cancer of the breast and cancer of the prostate, as well as the recent advances in the treatment of functional sterility. Other interesting developments and research problems still in progress will be only briefly mentioned.

THE THYROID GLAND

The most recent advances in diagnosis of thyroid dysfunction consist of the estimation of the serum protein-bound iodine and the use of tracer doses of radioactive iodine to study the uptake and urinary excretion of these substances. The use of these diagnostic procedures has helped not only in determining the degree of thyroid over- or under-activity, but also in the detection of cases simulating thyrotoxicosis, such as, anxiety states, psychoses, heart disease, hyperventilation, hypertension, adrenal cortical hyperplasia, and numerous other endocrine disturbances.

Thyrotoxicosis. As far as therapy is concerned, great advances have been made in the treatment of thyrotoxicosis with thiourea compounds and with radioactive iodine.

The use of thiourea compounds in the treatment of thyrotoxicosis is now generally accepted in selected cases. We are indebted to Astwood[1] whose original investigations demonstrated that the endocrine activity of the thyroid gland can be inhibited by administration of thiouracil. The most popular compounds now in use are propylthiouracil and methylthiouracil. It is well to remember that in the mild cases selected for this type of therapy alone, the basal metabolic rate should be maintained below normal for periods of at least one year before the drug is discontinued. In other cases which require surgery, thiourea compounds are employed preoperatively, usually in conjunction with the iodides.

Radioactive iodine has its greatest application in the treatment of thyroid carcinoma with or without metastasis. The use of this type of therapy in toxic thyroid states was for a while not generally accepted because of its drawbacks, such as certain carcinogenic effects, particularly on the kidneys from which it is chiefly excreted. Radioactive iodine therapy may have a depressing effect on the gonads in some sensitive individuals and may also cause hypothyroidism; occasionally toxic symptoms may be exaggerated instead of controlled in the early stages of treatment. In large doses radioactive iodine causes a depression of hematopoiesis. Probably the greatest drawback to its use is the necessity for specialized knowledge in its handling and administration and lack of availability except in selected centers. With accumulated knowledge as to dosage and administration and handling of the material, the use of radioactive iodine may become the therapy of choice in thyrotoxicosis.[2]

Hypothyroidism. Although very little advance has been made in the treatment of hypothyroidism, evidence is accumulating that thyroxin is superior to desiccated thyroid in many hypothyroid states. Prolonged thyroid therapy, however, tends to depress the patient's own thyroid function. This has been demonstrated by Joliot[3] and Skanse.[4] By the use of tracer doses, they found that the ability of the thyroid gland to take up radioactive iodine is greatly diminished in patients receiving thyroid medication for prolonged periods. Thus, thyroid extracts must be used only when clearly indicated and periodic interruption of treatment should be advocated.

As far as the iodine deficiency theory of simple goiter is concerned, evidence is now accumulating that dietary factors play a role in the pathogenesis of simple goiter.[5]

THE ANTERIOR PITUITARY GLAND

In the field of anterior pituitary physiologic and pathologic processes, great strides have been made in the isolation and purification of the adrenocorticotropic hormone, ACTH, and in the elucidation of

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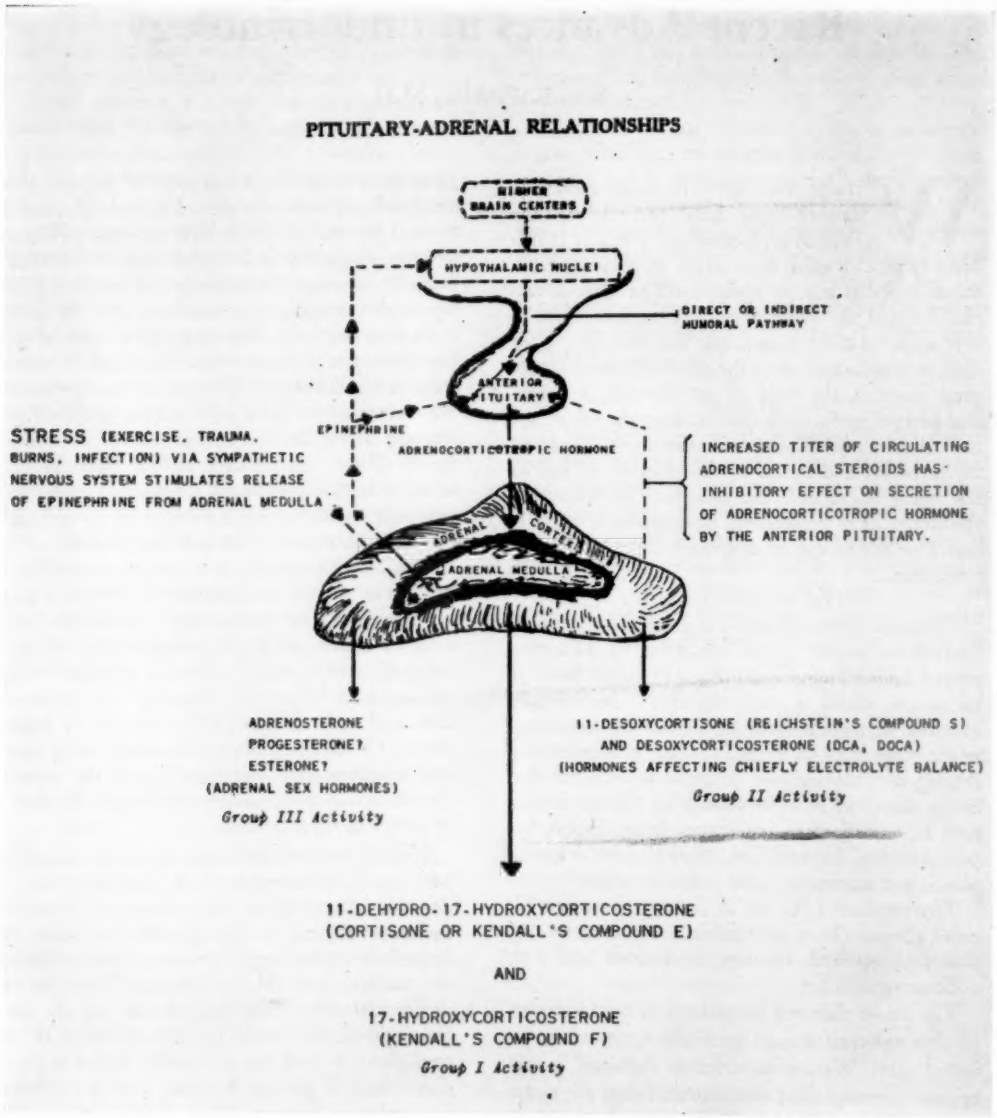

In response to stress the adrenal cortex increases in size and the secretion of cortical steroids is accelerated. In the absence of the pituitary gland these changes fail to occur and it has been amply demonstrated that it is the adrenocorticotropic hormone of the pituitary which sends the required stimulus to the adrenal cortex. The anterior pituitary, in turn, receives stimuli from the supraoptic and paraventricular nuclei of the hypothalamus, as demonstrated by Hume,[45] who believes that these nuclei have a secretory activity. The hypothalamus, in turn, receives impulses from the higher brain centers, as well as from the adrenal medulla, by way of the sympathetic nervous system. Epinephrine is secreted by the medulla in response to stress, such as exercise, trauma, burns, and infections.

This chart is reproduced by courtesy of Merck & Co., Inc., Rahway, New Jersey.

its effect on the adrenal cortex and the general metabolic processes of the organism.

The pioneer researches of Selye[6,7] in this field and his classic monographs on the alarm reaction, the adaptation syndrome, and the diseases of adaptation are well known. On this basis, the researches of Kendall and Hench[8] of the Mayo Clinic with ACTH and cortisone started a new chapter in therapeutics.

TABLE I
IMPORTANT STEROIDS OF THE ADRENAL CORTEX
GROUPED AS TO PHYSIOLOGIC ACTIONS

GROUP I Corticosterones	GROUP II Desoxycorticosterones	GROUP III Sex Hormones
Compound A (11-dehydrocorticosterone)	Doca (Desoxycorticosterone acetate)	*Male*: Adrenosterone
Compound B (Corticosterone)	Compound S (11-desoxy-17-hydroxycorticosterone)	Androtenedione 11-hydroxy-isoandrosterone
Compound E (11-dehydro-17-hydroxycorticosterone)	Amorphous Fraction	17-hydroxyprogesterone *Female*: Estrone
Compound F (17-hydroxycorticosterone)		Progesterone

THE ADRENAL GLAND

The adrenal gland plays a major role in the adjustment of the organism to stress. Therefore, the understanding of the mechanism by which its secretory activity is regulated is of considerable practical importance. The exact relationship which exists between cerebral cortex, the hypothalamus, and the anterior pituitary, to the adrenal cortex is not known precisely. The theoretical mechanism is best understood by referring to the chart (p. 306) of pituitary adrenal relationships.

The exact number of steroid hormones secreted by the adrenal cortex is still unknown; to date approximately 50 steroid hormones have been isolated. The important ones are usually grouped into 3 specific categories: (see Table I). Group I, the corticosterones; Group II, the desoxycorticosterone-like substances; Group III, the sex hormones. These groups have certain physiologic functions and metabolic effects in common which are summarized in Tables II and III.

TABLE II
METABOLIC EFFECTS OF THE CORTICOSTERONES

1. Carbohydrate and protein metabolism: favor gluconeogenesis.
   a. Decreased glucose tolerance and diabetes.
   b. Negative nitrogen balance—thin skin, weakness, and osteoporosis.
2. Fat metabolism: increased mobilization, utilization, and absorption
   a. Obesity.
3. Mineral metabolism
   a. Increased excretion of potassium, phosphate, and calcium.
   b. Salt and water metabolism — 1/30 effect of DOCA.
4. Uric acid metabolism: increased urea clearance in normal and in gout.
5. Lysis of lymphoid and eosinophilic cells: basis of Thorn test.

It is through the understanding of these functions that the syndromes of adrenal hyperfunction are clarified. Knowing the age and sex plus the action of excessive production of adrenal cortical hormones, one can easily unravel the signs and symptoms of precocious puberty, pseudohermaphroditism, and adrenogenital and Cushing's syndromes. The deficiency of these hormones is clearly depicted in Addison's disease.

TABLE III
METABOLIC EFFECTS OF DESOXYCORTICOSTERONE-LIKE SUBSTANCES

1. Salt and water metabolism: increases retention of sodium and chlorides and therefore water. Increases plasma volume.
   a. In excess causes edema and heart failure.
2. Increases excretion of serum potassium. Excess causes hypopotassemia.

METABOLIC EFFECTS OF THE SEX HORMONES

1. Mineral metabolism: cause retention of nitrogen, phosphorus, potassium, sodium and chlorides.
2. Male: androgenic effect: In excess cause virilism, hirsutism, balding, amenorrhea, acne, enlarged clitoris, deep voice; sexual and somatic precocity in children.
3. Female: In excess cause vaginal bleeding and sexual precocity in the female; impotence and gynecomastia in the male.

Many advances have been made in establishing the diagnosis of the adrenal disease syndromes and it is worth while to review the major diagnostic procedures.

Adrenal cortical hypofunction. The diagnosis is based on:

(A) History and physical findings. (These are too well known to need enumeration—Addison's disease is an outstanding example.)

(B) Blood chemistry determinations during crisis: (1) decreased sodium and chlorides; increased blood urea nitrogen and potassium; (2) increase in sodium and chloride excretion in urine.

(C) Confirmatory tests: (1) salt deprivation, (2) urinary chloride excretion, (3) water excretion, (these three tests need not be here discussed, as they are to be found in any standard text); (4) glucose tolerance test, a flat curve is observed; and

(5) insulin tolerance test, hypoglycemic unresponsiveness, prolonged hypoglycemia.

(D) Basal metabolic rate, usually extremely low in Addison's disease.

(E) Decreased excretion of 11-oxysteroids and 17-ketosteroids.

(F) Thorn test: This test is based on the fact that the 11-oxycorticosteroids cause lysis of lymphocytes, particularly eosinophils (Table IV). *Technique:* A direct chamber count of eosinophils is made and 25 mg. of ACTH are injected. In 4 hours, normally, there is a drop in circulating eosinophils. If there is no function of the adrenal cortex, as in Addison's disease, ACTH will not cause an outpouring of the 11-oxycorticosteroids and so there will be no change in the number of eosinophils.

TABLE IV
THORN TEST

Basis: the 11-oxycorticosteroids cause lysis of eosinophils. In adrenal cortical insufficiency ACTH administration causes no drop in circulating eosinophils.

Applications:

1. A simple diagnostic test of adrenal cortical insufficiency or Addison's disease.
2. A test of pre- and postoperative adrenal reserve.
3. Differential diagnosis of panhypopituitarism or functional hypopituitarism and Addison's disease.

(G) Modification of the Thorn test. *Technique:* An intravenous infusion of 1.5 mg. of epinephrine and 200 cc. of saline solution is given over an hour. This will cause a drop in the eosinophils normally in the presence of an intact anterior pituitary. Assuming an intact anterior pituitary, the test is satisfactory, simple, and reliable for the diagnosis of adrenal cortical insufficiency.

Adrenal cortical hyperfunction. The diagnosis is based on:

(A) Signs and symptoms.

(B) Glucose tolerance test: (1) decreased glucose tolerance due to increased gluconeogenesis; (2) the intravenous glucose tolerance test is more accurate because it obviates abnormalities of absorption.

(C) Insulin tolerance test: (1) An injection of 0.1 unit per kilo of body weight normally causes the blood sugar to fall to 50 percent of the fasting level in 30 minutes. It reaches pre-injection level in two hours. (2) In hyperplasia one notes abnormal insulin resistance—a slight or delayed fall in blood sugar. (3) In Addison's disease there is hypoglycemic unresponsiveness, a prolonged hypoglycemia.

(D) Excretion of 17-ketosteroids. It is important to point out that there are not 17 of these but that they have in common a ketone group of the 17th carbon atom. They represent excretory transformation products of the adrenal androgens and some 17-hydroxycorticosterone-like steroids and testicular hormones. In the female they are the index of adrenal hormones and in the male an index of adrenal and testicular hormones. (See Table V.)

(E) Roentgen studies: (1) x-ray of the sella turcica to rule out a basophilic tumor; (2) intravenous pyelogram and perirenal insufflation to localize the tumor or demonstrate hyperplasia; (3) x-ray of the spine and long bones for osteoporosis.

TABLE V
17-KETOSTEROIDS

Normal:

Childhood: 1 mg. equivalents of androsterone in 24-hour specimen of urine; reaches adult range at about 18 years of age.

Women: 5 to 15 mg. Pregnancy, no effect. Menopause, slight decrease.

Men: 16 to 60 mg. After age 50, may drop below 5 mg.

Decreased in:

Primary or secondary hypofunction of the adrenal cortex or testes.

1. Simmonds's disease; differential diagnosis from anorexia nervosa.
2. Male hypogonadism.
3. Addison's disease: absent in females. In males, 3 to 5 mg. per 24-hour specimen of urine.
4. Acute and chronic illness of all kinds.

Increased in:

Primary or secondary hyperfunction of the adrenal cortex or testes.

1. Adrenal hyperfunction: highest values in carcinoma, up to 350 mg. per 24-hour specimen of urine. High in hyperplasia. Differential diagnosis: beta fraction is elevated in carcinoma and normal in hyperplasia.
2. Interstitial cell tumors of the testes: normal in embryonal cell and chorioepitheliomas.
3. Alarm reaction.
4. ACTH administration.
5. Cortisone administration: may rise on large doses; increase on average doses; be absent on cessation of therapy.

The adrenal medulla. The physiology of the adrenal medulla and its effect on the neurovascular system has been thoroughly studied. Recently many papers have appeared on the subject of the adrenal medullary tumor (pheochromocytoma) as a cause of hypertension which is frequently undistinguishable from other types of hypertension. A spectacular cure of this condition can be accomplished by the surgical removal of the tumor, as recently reported by Castleman and Smithwick,[9] Cahill,[10] Thorn,[11] Becker, [12] and others.

DISEASES OF ADAPTATION

Our present knowledge of the pituitary adrenal relationships in health and disease owes a great deal

to the pioneer investigations of Selye, who described striking physiologic changes in the organism in response to strain and stress and noxious agents. The monograph which described this reaction appeared in 1936 and was entitled "The Alarm Reaction."[6] This term has been universally accepted and has formed a basis for further investigations by Selye and others. Selye continued his reasearch in this direction and has demonstrated that the persistence of strain and stress, be it physical, psychic, thermal, or chemical, results in adaptation of the organism to these noxious agents.

In a monograph published in 1946,[7] Selye described this process of adaptation and termed it "adaptation syndromes." He has also demonstrated that certain diseases of obscure origin develop in the course of the process of adaptation. Some of the outstanding examples are arthritis, periarteritis nodosa, nephrosclerosis, hypertension, diseases of the gastro-intestinal tract, and many others. In the light of our present knowledge of the relationship of ACTH and adrenal cortical hormones to various disease syndromes, Selye's investigations and theories are receiving support from a majority of both clinicians and investigators.

ACTH and Cortisone

It would not be fitting to review recent advances in reference to the anterior pituitary gland the adrenal cortex without a few words on ACTH and cortisone. The most important development in endocrinology within the last three years was the isolation and purification of the adrenocorticotropic hormone (ACTH) of the anterior pituitary gland. This was achieved by a scientific team of the Armour Laboratories, and studies of the clinical applications of this powerful hormone were carried out in collaboration with investigating units of medical schools and teaching hospitals.

The clinical investigations with ACTH in these numerous scientific centers involved the study of the effects of ACTH on a variety of diseases of known and unknown etiology, such as rheumatoid arthritis, acute rheumatic fever and related rheumatic diseases, pericarditis, pleurisy, lobar pneumonia, scleroderma, dermatomyositis, periarteritis nodosa, lupus erythematosus, myasthenia gravis, acute inflammatory diseases of the eye, allergic states, and metabolic and mental diseases. Many other diseases are under investigation now; the literature on the subject is voluminous.

ACTH exercises its powerful effect through the stimulation of the adrenal cortex. The function of the adrenal glands in health and disease is being actively investigated and several theories have been advanced. The dominant role of the adrenal cortex through its numerous steroid compounds is becoming more clearly understood from the pioneer investigations of Kendall and his associates,[13] Wintersteiner and Pfiffner,[14] and Reichstein,[15] who isolated corticosterone and brought out the relationship between vitamins and hormones.

Cortisone, one of the recently isolated adrenal cortical steroids, appears to be one of the more striking adrenal cortical hormones whose secretion is accelerated by the administration of ACTH. Intensive clinical research on the effect of cortisone in various types of arthritis has been carried out by Hench and his associates[8] at the Mayo Clinic, who were the first to report the spectacular results achieved with cortisone and ACTH. Numerous publications by the Mayo Clinic group and other clinicians throughout the country followed and it is now well established that seemingly hopeless cases of arthritis respond miraculously to cortisone and ACTH therapy.

The disadvantages of both types of therapy consist in the need for continued treatment, scarcity of material, high cost, and occasional unfavorable side effects, such as fluid retention with edema, increased load on the heart and kidneys, masculinization, and nervous and mental reactions. In order to prevent these difficulties, the cases selected must be followed with care. Patients with neurovascular diseases are obviously not suitable for this form of therapy.

The cost of cortisone will decrease gradually with the improvement of methods of synthesizing the hormone from bile and certain plants. Since ACTH is a complex protein and not a steroid, its synthesis is not possible at present. The availability and the cost of the material may improve with the advancement of the methods of purification and extraction of the hormone. It is now obtained from hog pituitary. It has recently been reported that the pituitary of cattle also contains appreciable amounts of ACTH and thus an added source of ACTH may soon be available. Many investigators are now actively engaged in clinical research with this hormone and further reports of these investigations will shortly be published.

Cortisone and ACTH are used as therapeutic agents in a variety of disease processes and it may be wise to review some of the modifications in the body as a result of their administration; fortunately these modifications are reversible. They are summarized in Table VI.

Sex Steroids and Cancer

Estrogens and androgens are now used extensively in inoperable cases of cancer of the breast and in metastic bone lesions. In the male, estrogens are

TABLE VI

TEMPORARY, REVERSIBLE MODIFICATIONS IN THE PITUITARY-ADRENOCORTICAL MECHANISM DUE TO ACTH OR CORTISONE

Adrenocorticotropic	Cortisone
1. Hypertrophy of adrenal cortex.	1. Involution of adrenal cortex.
2. Stimulates secretion of adrenocortical hormones.	2. Depresses endogenous pituitary secretion of ACTH.
3. Depresses endogenous pituitary secretion of ACTH.	3. Depresses adrenal cortical secretion.
4. Abolishes autoregulation of ACTH secretion by normal variations of titer of circulating adrenal cortical steroids.	4. Abolishes autoregulation of ACTH secretion by normal variations of titer of circulating adrenal cortical steroids.

used successfully in prostatic carcinoma with bone metastasis.

Hormonal therapy of breast cancer in the female. The use of testosterone in breast cancer was first reported by Ulrich,[16] and later by Fels,[17] Adair,[18] and Loeser.[19] It was through the clinical research and publications of Adair that testosterone therapy is now accepted as an adjuvant to surgery and radiation and as a palliative measure in inoperable cancer and particularly in bone metastasis.

In older women, past the menopause, estrogen therapy is, according to Ellis,[20] Nathanson,[21] and Taylor et al,[22] more beneficial, particularly in cancer of the soft tissues where striking regression occurred under adequate estrogen therapy.

Neither estrogens nor androgens produce a permanent control of breast cancer or life prolongation; relief from pain and a sense of well-being during the therapy, however, are achieved.

Estrogen therapy in carcinoma of the prostate. The beneficial effect of estrogens on carcinoma of the prostate has been demonstrated by Huggins;[23] his experimental work with dogs and clinical experience in the human has been confirmed by many other clinicians. Estrogen therapy is now used by some clinicians as the only therapy in inoperable cancer of the prostate; others use it as an adjuvant to surgery and radiation therapy. The treatment is only palliative; it causes a temporary clinical improvement, prolongation of life, and recalcification of bone metastasis, but cannot arrest the progress of the disease.

ESTROGENS AND CANCER

The role of estrogens in the etiology of cancer has been demonstrated with animal experimentation by Lathrop and Loeb[24] and by Lacassagne.[25] The animals used in these experiments were mice of high carcinogenic strains. These animals received large doses of estrogens over prolonged periods of time. In human strains, however, therapeutic doses of estrogens have not been considered to be an etiologic factor in cancer.

Although clinicians have over a period of many years used estrogens for the treatment of amenorrhea, dysmenorrhea, and the menopause, only two reports of cancer resulting from the therapy have appeared in the medical literature.[26,27]

Butenandt[28] in a recent review on the role of estrogens in the genesis of breast cancer, states: "All experimental data available in the literature on this subject indicate that estrogens used in extremely high, un-physiologic dosages can precipitate the appearance of breast cancer in mice of a carcinogenic strain only. Non-carcinogenic strains fail to show this reaction, no matter how high the dosage of estrogens used. In other words, there must be a genetic factor, a carcinogenic "anlage" which is stimulated by a proliferating action of the estrogens." This review by a pioneer in research on steroids should tend to dispel the reluctance of clinicians to administer estrogens, when indicated. The beneficial effect of estrogens on prostatic cancer in the male and on soft tissue cancer of the elderly female has already been mentioned.

There is extensive evidence of the harmless effects of large doses of estrogens used over a prolonged period of time; to mention a few, Smith and Smith,[29,30] and White[31] have administered large doses of estrogens in the toxemias of pregnancy and in the pre-eclamptic states, as well as in pregnancy associated with diabetes. Great benefits were achieved and no ill effects observed.

Karnaky[32] advocates the use of huge doses of estrogens in functional uterine bleeding and in habitual and threatened abortion over a period of several months. No adverse effects have been encountered in hundreds of patients thus treated and there has been a general shift to this type of therapy from the progesterone compounds previously used in these conditions.

It is wise, however, not to administer estrogens indiscriminately. Their use should be avoided in patients with a history of familial incidence of cancer. The dosage of estrogens should be kept at a low level, and patients should receive periodic interruptions of therapy.

FUNCTIONAL STERILITY AND INFERTILITY

The role of endocrine and psychologic factors in infertility of the wife or husband or both is receiving

serious consideration by the clinician. Thyroid deficiency is the best known single factor in functional sterility and in hypogonadism, with menstrual disturbances in women and with aspermia or oligospermia in men. Functional sterility can now be easily demonstrated by standard tests, such as the following: sperm analysis, endometrial biopsy, daily temperature records, daily vaginal smears, and urinary bio-assays. Judicious hormonal therapy has contributed a great deal towards the correction of hormonal deficiencies.

Pituitary gonadotropins, serum gonadotropins, and urinary gonadotropins are of value, especially if used in a physiologic sequence, as recommended by Hamblen,[33] and Rydberg and Pedersen.[34] Best results are obtained when the hypoplastic gonads are "primed" or pre-treated with steroids. Estrogen and progesterone are used in the female and testosterone in the male. Kinsel,[35] Hurxthal,[36] Douglas,[37] and Perlman[38] have reported good results with androgen therapy in male sterility.

Results from hormonal therapy depend on the severity of the case, the intensity of the therapy, and the disturbing factors of antihormone formation.[39] During prolonged administration of pituitary gonadotropins, antihormones are formed. This can be avoided, however, by allowing periods of rest after each course of therapy. Favorable results reported range from 20 to 32 percent in the female. In the male, the hormonal therapy is less effective and, although statistical data are not available, few satisfactory results have been reported.

"Small dose" radiation therapy to the pituitary and ovarian regions has gained considerable popularity through the efforts of Kaplan,[40] Mazer,[41] Drips,[42] and others. Finkler[43] has published an evaluation of hormonal and radiation therapy in 190 cases of functional sterility and secondary amenorrhea in the female. Farris[44] reported good results with pituitary irradiation in the male.

It is becoming more and more clear, however, that emotional conflicts, strain and stress, and marital maladjustments play a dominant role in functional sterility. Other disturbances of sexual function, such as impotence, frigidity, amenorrhea, dysmenorrhea, and functional uterine bleeding may find their origin in shock, continuous stress, and emotional tensions. Many of these conditions are corrected by psychotherapy.

Habitual and Threatened Abortion and Toxemias of Pregnancy

Spontaneous abortion may occur because of defective sperms or ova; nothing definite is known on the subject and attention has centered chiefly on maternal causes of abortion, such as untreated syphilis, cardiovascular disease, nephritis, abnormalities of pelvic organs, nutritional deficiencies, psychic disturbances, RH factor, incompatibility, and endocrine disturbances. In the realm of endocrine disturbances, thyroid deficiency has been long recognized as an etiologic factor, and satisfactory results have been obtained by supplementary therapy. Diabetes has been known for a long time as a cause of abortion.

The role of the disturbances of estrogen and progesterone metabolism was brought to the attention of the medical profession by Smith and Smith[29] as early as 1938. Their researches have continued over a period of years and in their recent publications[30] they have demonstrated that there is a decreased production of estrogen and progresterone preceding the loss of pregnancy, toxemia of pregnancy, and a pre-eclamptic state.

Determinations of urinary estrogens and pregnandiol enable the clinician to make an early diagnosis in suspected disturbances of pregnancy and prompt institution of treatment may prevent a disaster.

Progesterone therapy has been formerly considered to be the major endocrine preparation of value in habitual and threatened abortion. Smith and Smith have demonstrated, however, that estrogens, particularly stilbestrol, are much superior therapeutic agents in these conditions. A schedule of a gradually increasing daily stilbestrol dosage has been worked out by them and has been gratefully accepted by the profession. Many clinicians modify this therapy by adding progesterone in some cases. With this new type of treatment 72 percent of women with threatened abortion obtained living children, whereas, according to the literature, only 50 percent did so without the benefit of endocrine therapy. It goes without saying that bed rest, sedation, thyroid therapy, and proper nutrition are of primary consideration.

Toxemia of pregnancy, according to Smith and Smith,[30] can be treated by the same stilbestrol dosage schedule as that devised for threatened abortion; best results are obtained when stilbestrol is administered as a prophylactic measure in patients known to be subject to toxemia and in those who show a decreased urinary excretion of estrogens and pregnandiol. Nutritional factors are of primary consideration in all disturbances of pregnancy.

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Developments in the Field of Industrial Medicine

Alice Hamilton, M.D.

THIS EVENING I will give you a picture of the Dark Ages, for though the period dates back only some 35 to 40 years, it was really the Dark Ages of industrial medicine in this country. In those days what happened to the workers in the dangerous trades was not the responsibility of the State, nor of the employer, nor of the medical profession. We still followed the English common law which laid down the principles of "assumption of risk," meaning that the man knew the danger and assumed all responsibility for possible disaster, and of "negligence of fellow-worker," meaning that he should know if a fellow-worker was careless and protect himself against such carelessness. Long after the industrial countries of Europe had adopted protective laws we clung to the belief that our workers were so much better paid, better fed, and better housed that they needed no protection.

Medical men shared this comforting belief and industrial medicine was not an accepted branch of the profession, indeed the subject was tainted with socialism or sentimentality. To be sure there were industrial surgeons employed by huge companies with unusual accident rates, but they were not regarded with respect by their colleagues, nor did they always deserve to be. The system in the great Pullman works was this: When an accident occurred, the first man to be summoned was the company lawyer who came armed with a chart of the human body on which he marked the injuries he could detect. Only then was the man dispatched to the doctor's office. This was the parlor of the doctor's house, at the gates of the plant. He was a relic of the Civil War and his equipment was of the most primitive. There was no nurse, when an anesthetic was needed his wife, he told me, was pretty handy. Serious cases had to be sent to a hospital in Chicago, miles away. Of course there was no attention paid to industrial sickness, though lead and carbon monoxide, to say nothing of silicosis, were ever-present dangers. Another brilliant instance of the practice of that day came from a huge smelting and refining company on the Atlantic Coast. Here the doctor could always be depended on to testify in an accident case that the man had a damaged heart that had caused his death, not the accident. Lead poisoning, shockingly prevalent, was no affair of his. In those days industrial doctors were paid by deductions from the men's wages, but they had no voice in the selection of the doctor, as they had in England, and his loyalty was to the employer. This system persisted in the coal mines up to a short time ago.

When, in 1910, I took up the study of occupational poisoning there had been, so far as I could discover, less than a dozen articles on that subject in American medical literature. It was amazing to find in the great centers of industrial poisoning an almost complete lack of what one might call scientific curiosity among most physicians. For instance, in Akron, Ohio, that important rubber center, I found that while foremen in the plants could give me stories of carbon disulphide paralyses and insanity, no doctor had any idea there was such a poison. As late as 1938 I found the same thing to be true in the viscose rayon manufacturing centers in Pennsylvania, where carbon disulphide is the great danger. There was a mass of material from European countries and from Japan on this industrial poison, but Pennsylvania medicine had insulated itself against such knowledge.

Another hampering factor in my studies was the policy of secrecy followed by almost all companies and by many physicians on the theory that if the men knew they were exposed to a poison they would bring fanciful claims against the company. This was carried so far in the early days by the great steel companies around Chicago that an employe severely gassed with carbon monoxide would be hurried to the company hospital and held there incommunicado even from his family until he died or recovered. It took the intervention of the Austro-Hungarian Embassy to put a stop to that practice. But the policy of secrecy persisted through the first World War. Trinitrotoluene, nitrous fumes, and mercury fulminate were poisonous, but the men

This paper by Dr. Hamilton and the following paper by Dr. Barringer were read before the Women's Medical Association of New York City on May 7, under the general title of "The Development of Women's Opportunities in Medicine as Experienced during the past Half Century." (See pages 326-327).

were supposed not to know it. Even the medical profession was not exempt from this policy of concealment and the great chemical companies, though they did test their new products for toxicity, never published the results. I had to write to the German chemists in Elberfeld and Hoechst for information on the newer solvents. It is good to be able to tell you that in 1934 the Du Pont Company broke a long silence with the publication of its experience with the so-called aniline bladder tumor, and since then everyone has, I think, been willing to put all his cards on the table.

Although there were a few signs of growing interest in industrial medicine before 1914, I attribute its first emergence into importance to the war. It is ludicrous now to remember that when our Government awoke to the fact that we were manufacturing on a large scale munitions for the Allies and nobody knew what was happening to the men engaged in the work, the only thing they could decide to do was to send one lone woman out to explore war plants. I had not even a list to follow. The Ordnance Department said there was none. So, like the Children of Israel, I followed the pillar of fire by night and the pillar of smoke by day, for the nitrous fumes—all the explosives then were nitrated bodies—were abundant enough to serve as a guide across the New Jersey meadows. But the articles in English and French medical journals on methods of protection against poisoning for workmen in munition plants attracted the attention of some American doctors, notably David Edsall and Richard Pearce, and they formed a committee to help in the study of munition workers. From then on industrial poisons became the subject of research and of steadily increasing importance. The beginning of preventive work may be attributed largely to the insurance companies, for as laws were passed giving compensation for industrial sickness, the insurance agents marched in and insisted on proper precautions, under the threat of high insurance rates. Such spectacular happenings as the tetra-ethyl lead cases and the radium poisoning of dial painters were of great help in the passage of such laws.

One need only mention the enormous changes that have taken place here in the past 30 years. The associations of industrial physicians and surgeons, the journals devoted to this subject, the symposia called to deal with a new danger, the complete publicity now accorded to every discovery in the field, when one sums up these changes one is amazed to see the progress made in that short time. We have even developed a method of dealing with a dangerous industrial poison which is distinctly American. The Federal Government cannot impose regulations on the 48 sovereign States, but the Public Health Service has proved that persuasion, helped by publicity, can bring about a gentlemen's agreement among manufacturers either to give up the dangerous substance or to control the danger. This has been done with regard to tetra-ethyl lead in motor fuel, radioactive paint for dials, and mercury carrotting of felt hats, and is in process in beryllium-using industries. This purely voluntary system is the only one for a country composed of independent States, but it works.

So though American medicine was disgracefully slow in recognizing its duty toward a clear and present danger, when at long last its eyes were opened it pressed forward with speed and energy and in the space of some 30 to 40 years it has reached a place second to none in the world.

Fifty Years Ago

Emily Dunning Barringer, M.D.

YOU HAVE ASKED ME to turn the pages backward to a period around the turn of the century, popularly known as the "Gay Nineties," a period of enormous importance to the American woman physician. In order to help you recapture the tempo of those days, let me remind you that they were calm, leisurely and elegant in comparison with our modern speed and lack of decorum. New York City was, for the most part, a horse drawn city, with those of wealth having private stables. An occasional electric coupe or automobile appeared in the up town streets, and we had elevated trains. I do not recall anything but horse power for transportation around Gouverneur Hospital in my two years' stay there. The telephone was of the simplest, and I recall no switchboard in our busy hospital, and no telephones to the rooms of the interns. Labor, however, was very cheap, and there were plenty of maids to run errands. One could be hired for from 16 to 20 dollars a month, depending on experience. Most homes were lighted by gas, some of the more modern by electricity. And the lamplighter making his faithful rounds of the streets was giving way to more efficient methods. Tuberculosis and typhoid fever were everyday occurences. Then woman's place was in the home, where she was supposed to be the center of her adoring husband and children. For instance, she could not vote. Election Day was a man's day, with expected disturbances and possible brawls at the polls, and it was distinctly vulgar for a lady to go near them. While these observations apply roughly to 50 years back, it was during the preceding 50 years that the first American women physicians made their appearance. As I speak I realize that this pioneer stage was only a short time ago and that in the span of my own medical life I have known personally some of the heroic historic figures. This seems incredible, so dizzily rapid has been progress in the provision of medical opportunities for women since the gates were opened by these heroic earlier women.

The two Blackwell sisters are our first landmarks here in America. The elder sister, Elizabeth, I did not know. However, I came in contact with Dr. Emily Blackwell in one of the last classes that she taught in the Medical College of the New York Infirmary for Women and Children. She stands out as a memorable figure, a large, fine, impressive woman, simple, calm, judicial, kindly, with splendid organizing ability and granite determination. She and her sister, and the brilliant group they had gathered around them, founded a truly remarkable college for women medical students, and yet Dr. Emily had vision to see that the college so valiantly created and maintained at highest scholastic grade must of necessity give way as soon as one of the great universities should open its doors to women. The moment came when this very thing happened and I was in the group of students transferred from the Woman's Medical College of The New York Infirmary for Women and Children to Cornell University Medical College.

But wise Dr. Blackwell, while she approved closing the College, was equally convinced that the hospital, The New York Infirmary for Women and Children, should not close its doors, for she and her colleagues realized that while the opening of medical schools to women was one accomplishment, the opening of the general hospitals might be a much more difficult and prolonged undertaking. So the New York Infirmary remained open for women physicians and today continues as one of the most important centers for medical women.

Another pioneer woman, whom I knew much more intimately, was Mary Putnam Jacobi, a complete and striking contrast to Dr. Blackwell, one the great organizer, the other the brilliant scholar and teacher. Dr. Jacobi was small of stature, rapid in her movements, brilliant in her conversation and medical accomplishment. She was equally impressive with Dr. Blackwell, with her broadest forehead and magnificent brown eyes that could see through one completely. Mary Putnam was the American girl who went over to Paris and in a competitive examination so completely cleaned up the scholastic honors that the savants did not know what to do with her, and finally admitted her to the University.

Returning to America with her degree, she at once ranked as one of the outstanding medical figures of the day and was so accepted by the profession at large. I recall one medical man saying with whole-hearted admiration that she was the best read and most widely informed physician in New York.

From her wide experience abroad and at home, Dr. Jacobi was quite convinced that the large gen-

eral private and city hospitals could be opened to women only by a concerted and determined proof on their part, first, that they wanted and needed the opportunities, and second, that they were capable of filling them. After graduating from a splendid medical school, there were, aside from the services in the New York Infirmary, no general or surgical services open to women. In one or two instances special opportunities had been enjoyed by women in pediatrics and gynecology.

Here in New York, most of the services in the large private hospitals and municipal hospitals were filled through public competitive examinations in those days, and these examinations were open to all students from accredited medical schools throughout the country. This immediately made competition keener and the positions more difficult to obtain.

The result was that in order to hope to win in such a competitive examination special instruction became necessary. As a result certain hospital quizzes were formed and achieved great reputations. Probably the best known were those of Dr. Ellsworth Eliot at the College of Physicians and Surgeons, and Dr. John Rogers at Cornell. But these "quiz" classes were difficult to enter, even for the men, as it was desirable to keep the membership small. It was an unhard of thing that a woman should belong to such a group.

Dr. Jacobi realized that if women were ever to win places in the general hospitals they must have equal opportunity for preparation and must prove that they were a little better than their male competitors. She did all she could to create public opinion that women physicians should be given the chance, and to the women students she reiterated that they must be public spirited enough to enter these competitions, and to get up again and again to be knocked down, until finally someone would break through the walls and secure a place.

It may sound fairly simple that they should try to do this, but do you realize that they first had to get into a quiz class and had to secure permission to take part in public examination? This generally entailed one, often more, personal calls on every member of a Medical Board and often of the Board of Trustees as well. An interminable job! I wish I might present you with a list of the calls Dr. Jacobi must have made in order to help her younger colleagues, and with a list of the heartbreaking number of calls those younger colleagues had to make in order to convince those august gentlemen.

Women gained admission to at least one hospital quiz and to one of the city hospital examinations. Two women won places. Then these two women encountered another obstacle they had not realized. These positions had to be ratified by the Commissioner in charge of the hospitals, and he flatly declined to do so, stating that he would allow no woman on an ambulance where she might break her neck. And that settled that! The two women found themselves out in the cold with no jobs at all. I happened to be one of them and I can assure you that the outlook was not very cheerful.

But Dr. Jacobi was more valiant than ever. She appointed me as assistant in her office during this grim interval while we were waiting for the next move. That year was one of the most precious of my medical experiences.

We did not have to wait long, however. Within that year public opinion made a mighty swing around. Mayor Seth Low took office; a new Board of Trustees of Bellevue and Allied Hospitals was formed with Dr. Brannon as President. The Mayor announced and Dr. Brannon affirmed that if any woman physician won a place in the open competitive examination for Gouverneur Hospital it would be awarded. Needless to say the position was rewon.

Several years later Bellevue Hospital made a similar statement and from that time on internships for women have been available in most of the city hospitals and in many of the large private hospitals.

You may say this ended the problem of hospital appointments for women, but I would question—does it? While women are gaining more and more opportunities for residencies and assistant associate positions on medical staffs of hospitals, there are still few instances where a woman may aspire to be chief of staff in a general hospital. Look at the present situation. How many positions as chief of staff or director of service in general hospitals in this city are held by women?

A woman as well as a man must have opportunity to develop her individual contribution to the medical world. We will need the Woman's Medical College of Pennsylvania and the New York Infirmary for many a long year still.

If one is determined upon one line of work, every effort should be made to qualify in it. After the usual internship a residency or fellowship is particularly valuable in preparing one for a special line. I believe it is a matter of statistics that those who have had valuable fellowships step into finer and bigger opportunities. Competition with male colleagues will be very keen.

The race is to the fittest be it man or woman. The one who has the best health and physical endurance, the finest character and training, and the largest amount of golden good fortune is the one who will win out.

REBECCA PARRISH, M.D.

Founder of The Mary Johnston Hospital
Manila, Philippine Islands

On August 26, 1950, the new Mary Johnston Hospital in Manila was dedicated. Devoted to the Christian ministry of healing, it rose again from the ruins of war. At the dedication ceremonies, President Quirino lauded Dr. Rebecca Parrish, founder of the original hospital.

In a log cabin in Indiana on November 1, 1869, Rebecca Parrish was born. She was educated in a little red school house and later went to high school and normal school. But life was not easy. Her father died at an early age and her mother a few years later. The eldest of a family of eight children, Rebecca raised and educated her orphaned brothers and sisters — housekeeping, teaching school, and studying. She struggled until her youngest sister graduated from high school. In 1896 she herself graduated in "Bible and Missions" from the Chicago Training School, having studied under Lucy Rider Meyer, M.D., and in 1898 she entered Indiana Medical College from which she graduated in 1901, the fourth in a class of 47. She interned for one year at Wesley Hospital, Chicago, and then spent four and one-half years on the staff of a state mental hospital at Logansport.

REBECCA PARRISH, M.D.

Finally, she was able to achieve her greatest wish —foreign medical mission work, and on November 19, 1906, she reached Manila, the first woman physician to practice in the Philippines. On December 10, 1906, she established Bethany Dispensary, an out-patient daily clinic. Everyone came; the lepers walked in and sat down with the rest. Dr. Parrish went into the native homes and, better to understand the people, she studied the Malaysian language, the dialect spoken in several of the provinces.

A great wish became an actuality in 1908. Through the generosity of a Minnesota philanthropist who wished to honor his deceased wife, the Mary Johnston Hospital was built. It was located in an old native section on Manila Bay Beach, a small hospital for women and children, with a

THE MARY JOHNSTON HOSPITAL—1950

general out-patient clinic. Soon after the opening, an epidemic of cholera broke out and the hospital was used as an emergency hospital. What a contrast to these present days when immunization has practically outlawed cholera!

Children's, maternity, medical, and surgical wards were started. The Masons founded a "Crippled Children's Ward." Nurses' training was begun at once and now more than 500 nurses have been graduated. Dr. Parrish personally delivered 9,000 babies and helped with many others. Thirty-four nationalities were represented in these births. It is outstanding and significant that infant mortality was reduced from 66 to 8 percent in the Mary Johnston Hospital.

Here are some statistics to show the volume of work accomplished under Dr. Parrish's leadership in her 27 years in the Philippines: 4,500,000 medical and surgical services rendered; 1,000,000 patients seen in the out-patient clinic; 17,000 babies born; 25,000 children treated.

Though her medical work was demanding, Dr. Parrish always found time to do more and more to help her fellow man. For ten years, "off and on" she taught sociology at the University of the Philippines. She was a prolific writer, especially writing articles on health for journals and newspaper magazine sections.

Dr. Parrish stayed in the Philippines until 1933. Although she then returned to her homeland, she left her heart in Manila.

The Mary Johnston Hospital, dedicated to the service of the common people in Manila, was a familiar landmark in social service until its destruction in the Battle of Manila in 1945. In recognition of this, President Roxas gave additional Government land to provide more ample space for its proposed increased facilities in Tondo. There it now stands—a worthy monument to the original builders and the Christian ideal of selfless service.

At the dedication ceremonies on August 26, 1950, a historical plaque honoring Dr. Parrish was unveiled. She was given the Presidential Medal for Merit and also a citation telling of her career in the Philippines, a true disciple of Elizabeth Blackwell and a credit to the medical profession.

MARCELLE BERNARD, M.D.

American Gynecological Society

The American Gynecological Society held its 75th Anniversary meeting in New York on May 7 to 9, 1951. Lack of space permits only brief abstracts of the excellent papers and discussions.

Experience with the Rh Factor in 1,000 consecutive White Obstetrical Patients: This paper was presented by Dr. E. I. King, New Orleans, and discussed by Dr. Newell Philpott, Montreal. In Dr. King's series of 177 Rh negative women the possibility of isoimmunization was present in 86 (one out of six). In 13 of the 86, the infants were affected in varying degrees. In seven others isoimmunization was present, but the titer of antibodies was lower or appeared only at the end of pregnancy, and the babies were not affected. Some of these babies were Rh negative. Ten fetal deaths were definitely, and two others were probably due to Rh sensitization. Five other babies were affected but survived; one of these, now four years old, is mentally defective. The others are normal. Dr. Philpott's series included 1,262 patients; in 55 isoimmunization was present. There were 43 live babies, of which three were Rh negative, and 40 showed evidence of hemolytic disease. In the series of 1,262 patients, five had induced or spontaneous abortions, two fetuses died in utero. The question of treatment is still to be solved. Prophylactic administration of vitamin K, progesterone, methionine, was ineffective. Early delivery by cesarean section does not offer much, since the great risk is prematurity. Prompt replacement transfusions for the erythroblastotic infant is the only effective life saving measure at present.

Studies of Blood Oxygen and Saturation and Causes of Death in Premature Infants: Dr. E. Stewart Taylor, Denver, presented results of oxygen determinations performed upon capillary blood of 50 premature infants. Blood oxygen determinations were made at birth, at one-half hour, and at one hour of life. No maternal general anesthesia or analgesia had been administered. The results indicated that the percentage of infants reaching 80 percent oxygen saturation of blood one hour after delivery varied directly with birth weight. The premature was unable to oxygenate 85 percent saturation and less able to oxygenate his blood in 50 to 60 percent saturation at one hour of life. The mortality of infants with lower saturations at one hour of life was unusually high. In infants with 85 percent blood oxygen saturation the neonatal mortality figure was 4.5 percent and in blood oxygen saturation greater than 85 percent the neonatal mortality was further reduced to 2.2 percent. Analysis of premature infant mortality included 465 prematures, i.e., weighing less than 2,500 Gm., who were not exposed to any maternal general anesthesia or analgesia during labor. There were 62 deaths (13.3 percent). If infants weighing 1,000 Gm. or less were omitted, the mortality rate was 8.8 percent. Autopsy findings revealed an anatomical cause for death other than prematurity and atelectasis in over 90 percent of the cases. The majority of fetal deaths were associated with congenital abnormalities, erythroblastosis, intrapartum infections, or intracranial lacerations. The majority of the remaining infants died from asphyxia due to hyaline membrane, atelectasis, and focal hemorrhages of asphyxia. Pathological conditions of pregnancy, labor, and delivery contributed greatly to asphyxial deaths. Taylor laid great emphasis on the detrimental effects of maternal general anesthesia and analgesia upon the premature infant.

Studies on the Anemia of Pregnancy: During a survey of 4,000 pregnant women at the Charity Hospital, New Orleans, 20 percent were found to be anemic and 5 percent had initial hemoglobins below 8 Gm. A report on over 200 patients, anemic and normal, treated and untreated throughout pregnancy, was presented by Dr. Curtis Lund. Studies included bone marrow, plasma volume, erythrocyte protoporphyrin, and when indicated serum bilirubin, and urinary and fecal urobilogen. Dr. Lund's results indicated that hemodilution is a factor of great importance which must be considered not only in diagnosis but also in evaluations of therapeutic response. Studies of the erythrocyte protoporphyrin in conjunction with the standard blood counts indicated that iron deficiency was the major cause of anemia in that area.

BACTERIOLOGIC AND CLINICAL STUDY OF PYOMETRA: Dr. Francis Bayard Carter, Durham, North Carolina, reported 133 cases of pyometra: 72 percent associated with malignant and 38 percent with benign conditions. The latter included cases of pyometra following spontaneous postmenopausal cervical stenosis, cervical polyps, and obstruction following cauterization, conization, and radium therapy. Complete anaerobic and aerobic bacteriologic studies were made. Emphasis was given to anaerobic organisms found in the uterus. Proper therapy frequently must be based on bacteriologic findings. In the presence of pyometra, curettage and/or intracavitary radiation is contraindicated for a minimum of four weeks.

CLINICAL CONSIDERATIONS OF BENIGN OVARIAN CYSTOMAS: Dr. Clyde Randall, Buffalo, reviewed a series of 1,112 cases of ovarian tumors, of which 68 percent were malignant, 32 percent benign. In a study of 176 women followed for five years after removal of benign ovarian cystomas, dermoids comprised 12 percent, of which 11.9 percent were bilateral. Bisection of opposite normal appearing ovary was recommended, but the importance of preserving normal ovarian tissue was stressed. Benign cystomas comprised 20 percent of the cases, of which 23 percent occurred in patients over 50 years of age, and 6.6 percent were bilateral. There were 149 cases of cystadenomas; 99 or 63 percent of the simple pseudomucinous cystadenomas occurred in women under 50; 72 percent were bilateral; 50 or 26 percent of the simple serous cystadenomas occurred in women under 50; 18.3 percent were bilateral. In 50 cases in which one ovary was involved, the other ovary was preserved. When both ovaries were involved the lining of the cyst wall showed evidence of papillary formation. There were 64 cases of papillary cystadenoma; in three cases with unilateral involvement bilateral oophorectomy was performed. In 38 cases with unilateral involvement unilateral oophorectomy was done. In the remaining 13 cases both ovaries were involved; there was recurrence in three of these. In summary, 176 women with benign cystomas were followed for five years. There was a 23% incidence in the other ovary.

MALIGNANCY OF SPECIAL OVARIAN TUMORS: Dr. D. Nelson Henderson, Toronto, presented a clinicopathologic study of 40 cases of granulosa cell tumors, seven of dysgerminoma, and three of arrhenoblastoma. Long follow-up records revealed a 25 percent recurrence rate for the first group, 71 percent for the second, and 33 percent for the third. Histologic study was an inaccurate guide in estimating clinical malignancy. In the granulosa cell group early diagnosis was possible because of functional activity. There was 25 percent recurrence when one ovary was removed. Late recurrences, 5 to 10 years postoperative, point to the value of long follow-up records in assessing the malignancy of these tumors. High voltage x-ray was ineffective in the treatment of recurrences. Five of the seven cases of dysgerminoma ended fatally within five years; 89 percent of the cases revealed unilateral involvement. Two of the three cases of arrhenoblastoma occurred in sisters; both tumors were of the same histologic type, yet one patient died within a year while the other survived for eight years. These cases as well as a majority of the granulosa cell tumors were associated with clinical evidence of disturbance of sex hormone production. In the dysgerminoma group, two patients showed evidence of incomplete sexual development; the rest were normal.

RADICAL HYSTERECTOMY WITH BILATERAL PELVIC LYMPH NODE DISSECTION: Dr. Joe V. Meigs, Boston, presented five year results on 100 patients treated by radical surgery for cancer of the cervix. 78 percent of the 100 patients are living. 61 of the 72 or 84.7 percent of Stage One and 17 of the 28 or 60 percent of Stage Two are living. Five patients died of intercurrent diseases. The corrected five year survival figures would then read: Stage One—89.7 percent; Stage Two—63 percent. After a careful review by the pathologists of the histologic slides of the 100 cases, 15 cases were diagnosed as carcinoma in situ and thrown out. It was postulated that carcinoma of the cervix must show evidence that the carcinoma cells have broken through the basal layers of cervical and gland epithelium. Statistics on the five year survival in the 85 cases were 63 or 74 percent are living; 46 or 80.7 percent of Stage One and 28 minus 17 or 60 percent of Stage Two. 44 percent had received preoperative irradiation. There were 22.4 percent positive lymphnodes. Operative mortality was 0.8 percent. There were 7 percent urinary fistulae but with the experience acquired and improved technique, complications will be fewer in the future series. Dr. Meigs concluded with the statement that he believed a place has been established for the surgical treatment of cervical cancer.

EFFECT OF RADIATION ON METASTATIC LYMPH NODE INVOLVEMENT IN CARCINOMA OF CERVIX: Dr. Willis E. Brown, Little Rock, Arkansas, challenged the concept that metastatic lymph nodes are immune or inaccessible to proper irradiation. Calculations, made by Dr. Brown and his staff, of tissue roentgens delivered from the usual external and intracavitary radiation, indicated that in few instances has the total amount of radiation to the

lateral pelvic wall been adequate to sterilize the nodes. They believed that by individualization of therapy and proper integration of x-ray and radium, they could deliver a minimal cancer-sterilizing dose to the lateral pelvic wall. At the University of Arkansas they selected for study a group of patients with carcinoma of the cervix uteri. The technique consisted of placing a skin clip on the anterior lip of the cervix. By means of an anterior-posterior film the distance from the cervical canal to each lateral pelvic wall (ischial spine) was calculated. External measurements and depth dose calculations were made according to standard tables of radiation penetration. The minimal cancer sterilizing dose was estimated to be 5,000 to 6,000 tissue roentgens. A modified Ernst applicator was used for intracavitary application of radium or cobalt. The bladder and rectum were filled with contrast media and the lateral margin of the cervix was identified with a skin clip. Anterior-posterior and lateral films of the pelvis were taken and the total and specific distribution of radiant energy from each of the various foci was calculated. This prevented exceeding tissue tolerance in the region of the bladder, ureters, and rectum, and assured adequate concentration to the cervix and lateral pelvic walls. At varying time intervals following irradiation these patients were operated on, and lymphadenectomy, hypogastric artery ligation, and sympathectomy performed. When feasible, radical surgery, including variations of the Wertheim and pelvic evisceration procedures, was done. Preliminary observations suggest that carcinoma in the lymph nodes can be destroyed by this form of planned irradiation. To date, postirradiation complications following this intensive treatment have not been serious. It is too early to determine the effect on five year survival.

—*Reported by* BARBARA LOGAN, M.D.

SHORT-TERM RESEARCH FELLOWSHIPS

The National Foundation for Infantile Paralysis announces a new type of short-term predoctoral fellowships for undergraduate medical students interested in research in medicine and the related biological and physical sciences. The fellowships cover a minimum of two months' experience in research under direction of a competent investigator in the laboratories of approved medical schools or research institutes in the United States. Under the plan, the Dean of each four-year medical school has the privilege of nominating one medical student to receive a fellowship. The National Foundation for Infantile Paralysis will provide a stipend of $400 for each student qualifying for the summer laboratory study.

The new fellowships, as well as the regular pre- and post-doctoral fellowships currently being offered by the National Foundation, are administered by its Division of Professional Education with the assistance of a professional committee headed by Dr. Thomas B. Turner, Professor of Bacteriology at the School of Hygiene and Public Health of Johns Hopkins University. The purpose of the new short-term fellowships is to enable medical school students to test their desires and determine their aptitudes to participate in research in medicine and related biological sciences at an early stage in their professional careers.

Journal of the
AMERICAN MEDICAL WOMEN'S ASSOCIATION

ASSOCIATION NEWS AND ANNOUNCEMENTS

MESSAGE FROM THE PRESIDENT

BY THIS TIME every committee chairman should have a plan for the coming year's work well in mind. Every committee member should have been appraised of the part she must play in the program and should be ready to help.

During the year a real effort will be made to activate the affairs of the Association through the Regional and State Directors. Dr. Camille Mermod, the new second vice-president, will direct this program.

Our first request is that each State Director shall, as promptly as possible, supply a list of all women in her state holding the degree of doctor of medicine. This information is to include address and type of practice of each. It will be used for our file and for compiling a new directory of A.M.W.A. members. It will be the duty of each State Director to see that the existing branches in her state are active and acquainted with the work of the Association. She will try to form new branches wherever enough medical women are practicing.

The Regional Directors will assist in this work and will themselves receive help from Dr. Mermod. In this way our scattered membership will be united and can look forward to the inspiration of working together so that the ideals and objectives which we share may be realized.

The mid-year meeting of the American Medical Women's Association will be held November 10 and 11, at the Grove Park Inn, Asheville, North Carolina. The Western North Carolina Branch will act as hostesses. Asheville is a lovely mountain city. Many interesting side trips will be possible and you will enjoy the unique hotel. Plan to attend. We need your help.

Amey Chappell

AMEY CHAPPELL, M.D.

News of Women in Medicine

Dr. Frances Baker of San Mateo, California, has been appointed by the Board of Governors of the American Congress of Physical Medicine for the office of Secretary to serve the unexpired term of the late Dr. Richard Kovacs.

Dr. Bertha Shager, associate professor at the Northwestern University Medical School, retired recently after serving on the staff for ten years. She was director of the clinic for the treatment of Lues. She had previously been Director of the Louis Schmidt Clinic, devoting thirty years to the treatment of people afflicted with this disease.

Dr. Opal Helper has written a "Manual of Clinical Laboratory Methods." She is chief of the Clinical Pathology Department at Northwestern University Medical School and is Vice-President of the Illinois Society of Pathologists.

Dr. Emma S. Moss addressed the Thirteenth Annual Meeting of Arkansas Technologists on "The Identification of the Medically Important Fungi." She is director of Pathology at the University of Louisiana Medical School.

Dr. Edith Farnsworth is carrying on an active research program in nephritis and nephrosis as affected by ACTH. A grant from the United States Public Health Service makes this research possible.

Notes from the New York State Medical Society Meeting April 30 to May 4, 1951 . . . At the section on Gastroenterology, Dr. Hannah Peters of Rochester discussed Dr. H. M. Lemon's paper entitled "Cytology of Duodenal Drainage as an Aid in the Early Recognition of Cancer of the Biliary Tract and Pancreas" . . . Drs. Ruth Waelsch, H. S. Acken, Jr., and J. H. Ray of Brooklyn presented a paper, "Anesthesia in Caesarean Section" . . . "Cerebral Palsy: A Demonstration of the Types of Rehabilitative Therapy" was discussed by Dr. Paula Egel of Buffalo and Dr. W. D. Dugan of the same city . . . Dr. Sara Jordan of Boston took part in a panel discussion on Peptic Ulcer. . . . Dr. Vera B. Dolgopol was one of a group of four doctors from Willard Parker Hospital, New York, who presented a scientific exhibit, "Skin Manifestation of the Acute Infectious Exanthemata."

Dr. Agnes L. Brown, school health consultant, Georgia State Department of Health, has been appointed to the staff of the Bureau of Maternal and Child Hygiene of the Connecticut State Department of Health. She will fill the vacancy created by the resignation of Dr. Harriet Northrup. Dr. Brown has a master's degree in Public Health.

Dr. Virginia Downes has been appointed an associate public health physician for the New York State Department of Health. Formerly she was the director of the Maternal and Child Health Division of the Mississippi Department of Health, which post she held for ten years.

We were saddened to learn of the death of Dr. Rosetta Hall on April 5. She had been a physician for 62 years and had spent forty-five years as a medical missionary in the Far East until her retirement in 1939. She received her medical degree in 1889 from the Woman's Medical College of Pennsylvania. After serving her internship at the Nursery and Children's Hospital on Staten Island, Dr. Hall joined the Foreign Missionary Society. She established four women's hospitals in Korea and was a pioneer in educational programs for the blind and deaf. In 1928 she founded the Women's Medical College in that country. The Korean Government presented her with a silver cup and an Act of Merit.

At the 1951 Annual Convention of the State of New York, held in Buffalo, New York, women physicians played an important role in the scientific meetings. Among these physicians were Dr. Hannah Peters of Rochester who discussed a paper given by Dr. H. M. Lemon at the section on gastroenterology and proctology. Dr. Sara Jordan of Boston, Massachusetts, discussed Dr. A. F. R. Andresen's talk, "The Problem of Gastric Cancer," and also participated in a panel discussion on "Peptic Ulcer." One of the participants in the discussion on "Anesthesia in Caesarean Section" was Dr. Ruth Waelsch of Brooklyn, New York, Drs. Emily D. Barringer, Margaret P. Brewster, Valerie di Sante'Agnese, Maude Glasgow, and Jane North Baldwin have been received into the Fifty Year Club of the New York State Medical Society.

Dr. Florence Powdermaker of New York spoke at a meeting of the National Mental Health Committee. She said that her experiences in research and therapy with torpedoed seamen during World War II made her realize that there was a great need for a rapid expansion of the number of student psychiatrists to prevent mental disturbances from "freezing into chronic patterns."

"Education of the Mentally Ill Child" was the subject of an open meeting of the League to Help Mentally Ill Children, held recently in New York City. Among the speakers was DR. VIRGINIA M. MOORE, psychiatrist, Bureau of Child Guidance, City of New York.

DR. E. ANNE D. MATTERN, resident in surgery at Garfield Memorial Hospital, Washington, D. C., was awarded a one hundred dollar prize for medical research on abnormal growth in women frequently linked with cancer. DR. GRACE GUIN also won an award for her investigation of lung congestion caused by use of oily nose sprays and inhalation of mineral oil.

DR. ELIZABETH M. WELTY has been approved as the first woman member of the Spokane (Washington) Society of Internal Medicine.

During the last year the Sub-committee on Radio of the New York County Medical Society has presented weekly health talks over Station WNYC, New York, prepared and delivered by members of the society. Among the women physicians who participated and the subjects discussed were DR. SUSAN WILLIAMSON, "The Maternity Patient with Heart Disease"; DR. HELEN WALLACE, "The Premature Infant"; DR. MADGE C. L. MCGUINNESS, "The Modern Methods of Treating Arthritis"; DR. SOPHIA J. KLEEGMAN, "Sex Education"; DR. JEAN CORWIN, "Premarital Examination"; and DR. RUTH J. CUDMORE, "Whooping Cough."

DR. MILDRED C. REBSTOCK, research chemist who played an important role in the synthesis of the life-saving antibiotic chloromycetin, has been named Detroit's "outstanding woman of the year." Dr. Rebstock is only thirty-one years old. The Soroptomist Club president in presenting the organization's annual award said, "Dr. Rebstock has become one of the outstanding woman scientists of our time and she is a graphic example of how far a young woman can go in science in so short a time."

Notes from the 43rd Annual Meeting of the American Society for Clinical Investigation: "Studies on the Metabolism of Cholesterol in Normal Man and in the Nephrotic Syndrome," presented by Drs. I. M. London, GLORIA F. SABELLA, and MARTHA M. YAMASAKI of New York; . . . "A Safe Immunologic Adjuvant for Enhancing the Height and Persistence of Antibody Response to Influenza Virus Vaccines," by DRS. J. E. Salk, MARY LYNCH BAILEY, and ANGELA M. LAURENT of Pittsburgh, Pennsylvania; . . . "Studies on the Mechanism of Edema Formation in Patients with Low Serum Electrolytes," presented by DRS. CHRISTINE WATERHOUSE, E. H. Kentman, and D. Fenninger of Rochester, New York.

Notes from the 64th Annual Meeting of the Association of American Physicians: "Effects of ACTH and Cortisone on Idiopathic Thrombocytopenic Purpura," by DR. MURIEL C. MYERS et al.; . . . "Protein-Lipid Relationship in Diabetes Mellitus," by DRS. D. P. Barr and ELLA M. RUSS of New York; . . . "Observation on Fat Tolerance in Steatorrhea," by DRS. L. E. Holt, Jr., SELMA E. SNYDERMAN, et al. of New York; . . . "ACTH and Cortisone in the Treatment of Rheumatic Carditis," by DRS. Currier McEwen, ANN G. KUTTNER, JANET S. BALDWIN, et al. of New York; . . . "Studies Relating to Differential Diagnosis of Brucellosis and Infectious Mononucleosis," by DRS. W. W. Spink and DOROTHY ANDERSON of Minneapolis.

Among the physicians participating in the National Meeting of the American Federation of Clinical Research were DR. BARBARA SIGMOND of Philadelphia; DR. HELEN GOODELL of New York; DR. MARY F. SCHOTTSTAEDT of San Francisco; DR. ELLEN BROWN of the University of California School of Medicine; DR. MILDRED E. KAMNER and DR. EILEEN FLUG of the NYU-Post-Graduate School of Medicine; DR. MARY L. PETERMAN of Montefiore Hospital, New York; and DR. SHIRLEY FERGUSON of New York University and Goldwater Memorial Hospital, New York.

At the annual commencement exercises of the Woman's Medical College of Pennsylvania, now completing its one hundred and first year, 39 women received the degree of Doctor of Medicine. The honorary degree of Doctor of Science was conferred on DR. HELEN B. TAUSSIG, associate professor of pediatrics at Johns Hopkins University Medical School, and on Mr. John M. Russell, vice-president and executive director of the John and Mary R. Markle Foundation, who delivered the commencement address. One of the highlights of the occasion was the awarding by Dr. Mary R. Curcio, president of the Alumnae Association, to 10 women graduated from the College 50 years ago. Four were present to receive the awards: DR. FRANCES BARTLETT TYSON, DR. ELIZABETH COMSTOCK, DR. MARY RIGGS NOBLE, and DR. ELSIE TREICHLER. MIA PARSONNET received the President's prize for the highest average for four years, ELSIE M. TYTLA the Dean's prize for the highest average for the fourth year. The Professor of Surgery prize went to EDITHE J.

MILLER for the highest average in general surgery, and the Department of Medicine prize for the highest average in medicine to JOAN STUART VOGT. The Elise S. L'Esperance prize for work in the cancer field was awarded to EDITHE J. MILLER; and RENATE LEO received the award in Oncology.

DR. AURORA OTEYZA RIVERA, on leave of absence from the Manila Department of Health, the Philippines, one of the few women in the world to specialize in venereal disease, has been appointed to the post of assistant director of the Bureau of Venereal Disease, District of Columbia, the first woman to be so assigned.

Among the 24 persons appointed by President Truman to serve on the National Science Board are two women: SOPHIE D. ABERLE, special research director, University of New Mexico, Albuquerque; and GERTI THERESA CORI, professor of biological chemistry, Washington University Medical School, St. Louis, Missouri.

At the graduation exercises of the College of Physicians and Surgeons, Columbia University, New York, the Frederick P. Gay memorial award for outstanding work in bacteriology by a student was given to MARY ELIZABETH MCCLAIN.

San Francisco's first clinic devoted exclusively to the care and training of the speech handicapped was opened at the May T. Morrison Center for Rehabilitation. DR. MARCIA HAYS, chief of the Cerebral Palsy Division, Department of Public Health, is a member of the Speech Therapy Advisory Committee.

MARGARET ANN HUNT, DeWitt, Arkansas, one of eight women in a class of 102 students graduating from Washington University Medical School, St. Louis, Missouri, led her class during the entire four years and was awarded the Alpha Omega Alpha prize. She was one of five students to be graduated cum laude. She will intern in pediatrics at the University of Minnesota Hospital, Minneapolis.

"I-131 Therapy in Thyroid Cancer" was the title of a lecture given at the Tumor Conference at Harlem Hospital, New York, by DR. VIRGINIA KNEELAND FRANTZ, associate professor of surgery, College of Physicians and Surgeons, Columbia University, and associate attending surgical pathologist, Presbyterian Hospital, New York.

DR. IRENE JOSSELYN has been appointed Medical Director for a mental health clinic in the Highland Park Hospital, Illinois, to serve the Wilmette, Kenilworth, Winnetka, Glencoe, and Highland Park districts.

DR. EFFIE M. ECKLUND is in charge of the Department of Eye, Ear, Nose and Throat at the Joslyn Clinic in Maywood, Illinois.

DR. KAREN HORNEY was moderator of a panel discussion on "Surrender as a Psychological Event," held at the meeting of the Association for the Advancement of Psychoanalysis, Inc., in New York.

DR. SHEILA SHERLOCK of the Postgraduate Medical School, University of London, England, delivered the twenty-seventh Ludvig Hektoen Lecture of the Frank Billings Foundation, Institute of Medicine, Chicago, on "Hepatic Venous Catheterization in Clinical Research."

The Trudeau Medal was presented to DR. FLORENCE SABIN of Denver, Colorado, at the annual joint meeting of the National Tuberculosis Association, the American Trudeau Society, and the National Conference of Tuberculosis Secretaries.

Problems related to human behavior were explored at a conference at Northwestern University in connection with the school's centennial. Among the participants were DR. CLARA M. THOMPSON, New York, practicing psychiatrist, and a member of the board of trustees, William Alanson White Psychiatric Foundation, Washington; and DR. CHARLOTTE G. BABCOCK, Institute of Psychoanalysis, Chicago.

A prominent British woman doctor has noted that all of history's great men were breast-fed babies. DR. KATHLEEN VAUGHN, a seventy-nine year old obstetrician, said that the rise and fall of civilizations might depend on how babies are weaned. She has written several books on obstetrics and feels that bottle-raised children are weak in comparison to breast-fed babies.

At the graduation exercises of the New York University College of Medicine, the Alumnae Club Key was awarded to MRS. HELEN W. EDEY as the outstanding woman student. ELAINE TAMARA BOSSAK received the second of the Alpha Omega Alpha prizes for the highest scholastic ratings in the four years.

DR. RUTH HUBBARD is one of the associates of Dr. George Wald and is doing research at the Harvard University Biological Laboratories. The creation of a "chemical eye" in a test tube, in which a group of chemicals interact in exactly the same manner as when the eye sees in the dark was reported before the Society of Biological Chemists by Dr. Wald and his associates.

At a conference on the "Influence of Hormones on Enzymes," under the sponsorship of the Section of Biology, New York Academy of Sciences, DR. GLADYS FELDOTT of the University of Wisconsin presented a paper. She was the only woman to address this group.

MARCELLE BERNARD, M.D., *News Editor*
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NEWS FROM THE BRANCHES

Branch Fourteen, New York, New York

The spring meeting of the Women's Medical Association of New York City was held on May 7. Under the general title of "The Development of Women's Opportunities in Medicine as Experienced during the past Half Century," papers were read by Dr. Alice Hamilton and Dr. Emily Dunning Barringer. (See pages 313 and 315.) This meeting also witnessed the inauguration of the annual awards by the Association for scholastic excellence, to a fourth year medical student from each of the five medical schools in the city. The following students were recommended by the deans of the schools: Esther M. Fincher, Cornell University Medical College; Rita Girolamo, New York Medical College, Flower-Fifth Avenue Hospitals; Mary Elizabeth Dickason, College of Physicians and Surgeons, Columbia University; Barbara Sylvia Ashe, New York University College of Medicine; and Eleanor Zucker, State University Medical Center at New York. The awards, small engraved testimonials, were presented by Dr. Elaine Ralli, and each student received also autographed copies of "Bowery to Bellevue" by Dr. Barringer, and "The First Woman Doctor" by Rachel Baker.

Dr. Leoni Claman, president of the Association, who presided said: "This evening marks the occasion of the first presentation of the awards for scholastic excellence. The candidates, fourth year medical students, one from each of the five medical schools in New York, were recommended by their respective deans. We are pleased to have three of these gentlemen with us this evening: Dr. Joseph Hinsey, Dr. J. A. Curran, and Dr. H. S. Laurence, and regret that Dr. Rappelye and Dr. Hetrick could not attend.

"To give you an idea of the purpose of these awards, I call upon our former president, Dr. Elaine Ralli, associate professor of medicine, New York University College of Medicine, whose sincere and stimulating interest in students of medicine is well known."

Remarks by Dr. Ralli

"It gives me great pleasure to welcome the students from the medical colleges of New York. The Women's Medical Association is tonight initiating an award to be given to the woman medical student whose scholastic work is outstanding in her school. Before making the awards for this year, there are one or two points I would like to mention.

"This Association was started in the early 1900's at a time when opportunities available to women in medicine were limited. The women doctors of those days had to overcome prejudice and discrimination —that happily is no longer the case. The times have changed and the opportunities for women in medicine today are truly magnificent. In the same way, the original purposes of this organization have changed.

"Originally its purpose was to provide women physicians with a place to meet and present and discuss their work, and to help develop opportunities for them. Today, the purpose of this Association is to stimulate medical women to develop themselves, so that they may be prepared to take advantage of the broadening opportunities presented by the developments in medicine. We meet and discuss recent developments in medicine and the role of the physician in the changing social scheme. We feel that as members of an organization, we have a unique responsibility in helping to develop better medical care in the City of New York. Furthermore, as New York today is the medical center of the world, and physicians, both men and women, from all over come here to study, we have the added responsibility of acquainting visiting physicians with what is going on in medicine in this country.

"To you young women who are at the threshold of your medical lives we present these awards because your scholastic standing is evidence of unusual capacities. We hope this award will act as a stimulus to your continued development and will remind you that the physician of tomorrow must be a person not only well trained in medicine, but also with a sense of the social responsibilities that are an integral part of the medical profession.

"Tonight we have with us two women physicians whose outstanding contributions to medicine not only developed opportunities for you and for me but

EMILY DUNNING BARRINGER, M.D.

ALICE HAMILTON, M.D.

also helped in the advancement of medical knowledge. We hope that you will do as well. These awards are made to you with the hope that they will serve as an added incentive to your development as physicians."

* * *

Dr. Alice Hamilton was then introduced as the founder of industrial medicine in the United States, and for many years professor of industrial medicine at Harvard University, with many achievements, particularly in the investigation of poisonous trades during the period when she was a special investigator in the United States Department of Labor; as a member of the Health Organization of the League of Nations, and of President Hoover's Commission on Social Trends, as the author of a number of books and articles, and as a recipient of the Elizabeth Blackwell Centennial Award at Hobart College in 1949.

Dr. Emily Dunning Barringer was introduced as a former president of the Women's Medical Association of New York City and of the American Medical Women's Association, as the first woman ambulance surgeon in New York, and the first woman to receive a diploma for an internship at Bellevue Hospital, as the recipient of a decoration from the King of Serbia for work during World War I, as a strong fighter for the passage in the State Legislature of laws for premarital and prenatal examinations to control syphilis, and more recently as chairman of a special committee of the American Medical Women's Association which secured commissions for women physicians in the United States Armed Forces.

BOOK NOTICES

(Editor's Note:—These reviews represent the individual opinions of the reviewers and not necessarily those of the members of the Editorial Board of the JOURNAL.)

PRINCIPLES AND PRACTICE OF THE RORSCHACH PERSONALITY TEST. By W. Mons, M.R.C.S., L.R.C.P., Sen. Psychiatrist, German Hospital, London; Psychotherapist, West End Hospital for Nervous Diseases; Assist. Psychiatrist, Portman Clinic for the Scientific Treatment of Delinquency; Foundation Fellow, Brit. Rorschach Forum. Second Edition. Pp. 170. Price $4.00. J. B. Lippincott Company, Philadelphia, 1951.

This work is devised, the author has stated, not as a text book on the Rorschach practice and interpretation, but as an introduction for the study of more advanced works. In essence this brief volume gives the reader a general idea of the theory upon which the test is conceived, as well as the practical aspects of its use, and the method of attaining a general assessment of the personality.

W. Mons' original findings were amassed from research, done on over 1000 records of children from four to 16 years of age. One half of this group were deviant both emotionally and organically; the remaining half were school children with a uniformity of social background and intellectual endowment. This group was compared with 200 soldiers with whom the author also worked during the war. These men came from the same social and educational group as the children. The opportunity to compare developmental trends in terms of Rorschach findings is unique as well as invaluable.

The book is divided into eight parts: Theory of the Test; Practise of the Test; Scoring and Tabulation; Significance of Separate Scores; Assessment of Personality; Some Useful Elaborations of the Method; Diagnostic Addenda and Examples.

The author has selected the most significant contributions of a number of Rorschach specialists that are helpful in differential diagnosis. He has also introduced some new scoring of his own that he has found useful in the evaluation of personality. Various aspects of the test are discussed clearly. One instance is seen in his reporting of texture (c), for comparatively little is still known about this concept. Sound advice and practical points are offered to beginners.

In summary, this volume serves a useful purpose in giving the beginning Rorschach student an overall concept of what to expect of and how to use this test as a diagnostic tool. Although the records used as illustrations are analyzed in a descriptive rather than a dynamic fashion, the author as a result of his own experience with so large a number of patients, has made original contributions that Rorschach workers will find both interesting and useful.

—Harriet Katz, M.S.

THE MICROKARYOCYTES, THE FOURTH CORPUSCLES, AND THEIR FUNCTIONS. By K. G. Khorozian, A.B., M.S., M.D. Pp. 969, 480 illustrations. Price $12.00. Meador Publishing Company, Boston, 1951.

The first announcement about the existence, the discovery and some of the functions of a small cell originating in the yellow marrow and named microkaryocyte or the "Fourth Corpuscle" was made in 1944 at the Ninety-fourth Annual Session of the American Medical Association. The author in this book has assembled the data pertaining to the discovery and descriptions of the, up to this time, unknown corpuscular elements from which the cells of the body are cytologically composed. It is found not only in cells but also in secretions and enzymes. He defines a new physiology of secretory cells and the cytologic nature of so-called secretory granules and mitochondria and concludes that all secretions are cells composed of these newly discovered microkaryocytes. He demonstrates that the digestive processes, the nourishment, metabolism, tear and repair of cells are accomplished by these cells. They are also instrumental in the utilization of therapeutic agents which are picked up, carried and utilized by the cells.

A paramount contribution is the clarification of the status and habitat of the viruses in the structures of these cells. He demonstrates that the so-called inclusion bodies are cells, and that they are microkaryocytic cells.

The study of the microkaryocyte reveals that cancer cells are similar to normal cells. With high photographic enlargement, up to 20,000 magnifications of cancer cells, there are visible and photographically demonstrable certain nucleated structures in the microkaryocytic component of the cancer cell. These organized nucleated structures are similar to those seen in virus and Rocky Mountain Spotted Fever vaccines. The author considers these nucleated bodies as causative agents, or the virus of cancer cells. The methods of staining are described, and the book is profusely illustrated. Some of the photographs are enlarged 25,000 times.

It is a thought provoking book and will revolutionize the concepts of the physiology and structure of the organism and disease. if the findings can be verified by future investigators using the newer techniques and knowledge described.

—Gulli Lindh Muller, M.D.

THE AMERICAN ILLUSTRATED MEDICAL DICTIONARY. By W. A. Newman Dorland, A.M., M.D., F.A.C.S., Lieut.-Colonel, M.R.C., U.S. Army; Former Member of the Committee on Nomenclature and Classification of Diseases of the American Medical Association. 22nd Edition. Pp. 1736, with 720 illustrations, including 48 plates. Price $10.00. W. B. Saunders Company, Philadelphia and London, 1951.

It is always a pleasure to see a new edition of Dorland's Dictionary because it is a ready reference book. ACTH appears as the abbreviation and therefore is readily found. The same holds for many other abbreviations. Cortisone, cortate, and cortone are included. Nitrogen mustard is under mustard but nevertheless that requires only two tries to find it. The book is complete and up to date.

—Else A. Barthel, M.D.

Current Publications of Women in Medicine

Reuting, Ruth E.: Progress notes on fifty diabetic patients followed twenty-five or more years. Arch. Int. Med. **86:** 891-897, Dec. 1950.

(From George F. Baker Clinic, New England Deaconness Hospital, Boston.)

The prolonged duration of life in this series after the onset of diabetes is impressive. Fifty patients with diabetes mellitus of five years' duration or more, whose age at onset was less than 40 years, were selected at random in 1929. Of the group, 31 survive; their average age to Nov. 1, 1949, is 44.8 years and the duration of their diabetes 28.4 years. Of the 19 that died, the average age at time of death was 34.9 years and the duration of diabetes 17.6 years. The average duration of diabetes of the 50 patients, living and dead, is now 24.3 years. The cause of death and the occurrence of other diseases and other conditions associated with the diabetes are discussed. Although the mortality has been high, the surviving 31 patients are with one exception active and living useful lives.

Dunnington, J. H., and **Regan, Ellen F.:** Factors in influencing the postoperative results in concomitant convergent strabismus. Arch. Ophth. **44:** 813-822, Dec. 1950.

(From Institute of Ophthalmology, Presbyterian Hospital, and Department of Ophthalmology, Columbia University College of Physicians and Surgeons, New York.)

The over-all statistics in this series of 79 cases of concomitant convergent strabismus at least seven years after operation were: deviation of less than 10 diopters in 44 cases: outward deviation more than 10 diopters in 16 cases; inward deviation of more than 10 diopters in 19 cases. On the bases of the observations reported, the authors make certain suggestions with regard to surgical correction of this condition.

Crossen, R. J., and **Suntzeff, Valentina:** Endometrial polyps and hyperplasia produced in an aged monkey with estrogen plus progesterone. Arch. Path. **50:** 721-726, Dec. 1950.

(From Barnard Free Skin and Cancer Hospital, St. Louis.)

An aged female monkey was given 120 mg. of estradiol benzoate by implantation plus 1.630 mg. of progesterone (lutocyclin) by mouth over a period of three years. In addition to pronounced cystic hyperplasia of the endometrium, a large hemorrhagic endometrial polyp was produced. Hypertrophy and hyperplasia of the blood vessels were present in the polyp, the endometrium, and the muscle wall. The role of endogenous and exogenous estrogens acting on aging tissues is discussed.

Opie, E. L., and **Rothbard, Mary Boon:** The movement of water in interstitial tissue and in muscle removed from the body. Arch. Path. **50:** 800-812, Dec. 1950.

(From Laboratories of The Rockefeller Institute for Medical Research, New York.)

When dense fibrous tissue like that of corium of the skin, wall of the aorta, or tendinous fascia of muscle is immersed in solutions of sodium chloride it swells by hydration; it takes up water in both weak and strong solutions of sodium chloride, in Ringer's solution, and in blood serum. In striated muscle under the same conditions movement of water occurs by hydration of the fascial framework and by osmotic interchange between muscle fibers and the surrounding fluid. Interchange of water in heart muscle and in smooth muscle of the uterus similarly immersed is, under usual conditions, chiefly by osmosis. The water of interstitial tissue is normally in such relation to colloids that it is not freely movable in tissue spaces.

Silberberg, M., and **Silberberg, Ruth:** Effects of a high fat diet on the joints of aging mice. Arch. Path. **50:** 828-846, Dec. 1950.

(From Snodgras Laboratory of Pathology, Hospital Division, City of St. Louis, and Department of Pathology, Washington University School of Medicine, St. Louis.)

In male mice of strain C57 black, fed throughout life a diet containing 29 percent fat, articular aging was hastened as compared with that of controls fed a stock diet containing 5 percent fat. Under the influence of the fat-enriched diet the incidence of osteoarthritis was increased two-fold and the onset of the disease significantly accelerated. As the incidence of osteoarthritis increased, that of simple age changes decreased. Articular age changes may, therefore, be considered as precursors of, and possibly pacemakers for, the severe lesions of degenerative joint disease. A number of animals remained free of articular changes even in old age and even if fed the fat-enriched diet. Under the conditions of the present experiment the overweight associated with the consumption of the high fat diet played only a minor role, if any, in the pathogenesis of degenerative joint disease.

Smith, Margaret G., and Vellios, F.: Inclusion disease or generalized salivary gland virus infection. Arch. Path. **50:** 862-884, Dec. 1950.

(From Department of Pathology, Washington University School of Medicine, and St. Louis Children's Hospital, St. Louis.)

Twenty cases of inclusion disease of infants and children are presented including three instances in which the disease was observed in infants dying in the neonatal period. From their observations and those reported in the literature the authors conclude that generalized salivary gland virus infections occur, in the majority of cases, during the first two years of life. In infants under 2 months of age generalized salivary gland virus infection is usually a primary fatal disease; in children over 2 months of age the disease is associated with diverse clinical histories and anatomic changes. There is suggestive evidence that disturbances of cellular metabolism such as those occurring in vitamin deficiences may predispose to generalized salivary gland virus infections.

Bateman, Jeanne C., Klopp, C. T., and Cromer, J. K.: Hematologic effects of regional nitrogen mustard therapy. Blood, **6:** 26-38, Jan. 1951.

(From Departments of Medicine, Surgery, and Gynecology, George Washington University Cancer Clinic and George Washington University Medical School, Washington.)

Hematologic findings on 21 patients who received fractionated intra-arterial HN_2 therapy are reported. The effects on bone marrow and peripheral blood were essentially the same in character as those observed after intravenous administration. Larger doses of HN_2 were tolerated when administration was intra-arterial. A consistent early depression of marrow eosinophils was noted in all cases with original differential counts of 2 percent or more, except in one patient with Hodgkin's disease and extensive psoriasis. A differential effect of HN_2 on marrow in the region of therapy and the marrow from other sites was demonstrated by simultaneous aspiration studies. Factors reducing hematologic damage include occlusion of venous return from the injected cite and prolongation of therapy. Only one patient in this group developed severe hypoplasia of the bone marrow. Studies on this and other patients treated by the lower abdominal aortic route suggest that more than 1.1 mg/kg HN_2 per course in this region may be hazardous. Four patients died within two weeks following therapy with symptoms suggesting profound electrolyte disturbance. It is probable that limiting factors other than hematologic may occur with localized HN_2 therapy.

Reinhold, Margaret: A case of auditory agnosia. Brain, **73**(2): 203-223, 1950.

(From National Hospital, Queen Square.)

This patient suffered from a defective understanding of sounds including speech and music, although her hearing was not impaired. She had also lost the understanding of rhythm, and had defective auditory imagery. She was unable to think in terms of abstractions. She showed a degree of a calculia. At the onset of her illness she had suffered from auditory hallucinations. The case is described and discussed in detail.

Corner, Beryl, and Mason, S.: Streptomycin. Bristol Med.-Chir. J. **68:** 16-22, Jan. 1951.

(From United Bristol Hospitals, and Southmead Hospital Group.)

The results with streptomycin at the Bristol Children's Hospital Streptomycin Unit and as reported by various workers in other units and individually are discussed. Two cases treated at Southmead Hospital which illustrate some of the difficulties that may arise and features of unusual interest in the treatment of tuberculosis and tuberculous meningitis with streptomycin are reported in detail.

Quimby, Edith: Achievement in radiation dosimetry, 1937-1950. Brit. J. Radiol. **24:** 2-5, Jan. 1951.

(From Columbia University, New York.)

The author outlines the lines along which thinking about dosimetry has progressed. With the ever-widening field of energy and type of radiations, it has become evident that the old units and methods were inadequate and it appears that new units will be set up which will depend on energy absorption within the medium traversed by the radiation. Basic information will have to be obtained to relate experimental data to the new units, and new instrumentation developed to meet the new conditions.

Kennedy, A. C., and Smith, Mary D.: Monocytic leukaemia: report of four cases. Glasgow M.J. **31:** 442-454, Dec. 1950.

(From Muirhead Department of Medicine, University, and The Royal Infirmary, Glasgow.)

Four cases of acute monocytic leukemia of the Schilling variety are presented, three of which are subleukemic. The clinical, pathological and hematological features of the condition are reviewed and the problems of diagnosis discussed. The most satisfactory method of treatment which can be recommended at the present time is repeated blood transfusion with trial of folic acid antagonists and administration of antibiotics to counteract any infection.

Wilson, May G., and Helper, Helen N.: Effect of pituitary adrenocorticotropic hormone (ACTH) in acute rheumatic carditis. J.A.M.A. **145:** 133-138, Jan. 20, 1951.

(From New York Hospital, Cornell University Medical Center, Department of Pediatrics, New York.)

In eleven consecutive patients given 30 to 100 mg. of pituitary adrenocorticotropic hormone (ACTH) every six to eight hours for periods of four to seven days, there were no significant untoward effects attributable to therapy. The circulating eosinophil count provides a useful guide to the adequacy of therapy. In every patient clinical evidence was obtained of termination of symptoms and signs of progressive acute carditis during therapy. Four to 12 months after treatment of six patients with what was presumably an initial attack there was no evidence of residual cardiac damage in two and equivocal evidence in three. In five patients experiencing a recurrent attack there was no clinical evidence of increased cardiac damage. From this limited experience it seems that early treatment of acutee carpditis with adequate amounts of pituitary adrenocorticotropic hormone should shorten the course of the disease and result in a minimal residual cardiac damage and prevent death due to progressive carditis and resultant congestive failure. A tentative schedule of therapy is recommended.

Dituri, Bessie, and Gilman, L. H.: Withdrawal symptoms of barbiturate addiction: a little-known syndrome. J. Philadelphia Gen. Hosp. **2:** 2-5, Jan. 1951.

(From Divisions of Psychiatry and Laboratories, Philadelphia General Hospital.)

Three cases illustrating the frequent difficulties in diagnosis and differential diagnosis of the syndrome of withdrawal from barbiturate addiction are described. The importance of its recognition lies in the increasing incidence of addiction to sedative drugs and in the fact, according to Isbell, that once addiction has been established, withdrawal from barbiturates is potentially more dangerous to life than is abstinence from morphine. The characteristic findings are briefly presented.

Hay, E. B., Hay, Celestine R., and Jenkins, D. E.: Blood volume and extracellular fluid in tuberculosis. J. Thorac. Surg. **21:** 42-47, Jan. 1951.

(From Department of Surgery and Department of Medicine, Baylor University College of Medicine, and The Hermann and Houston T.B. Hospitals.)

In patients with tuberculosis studied, there was a reduction in red cell mass, an increase in plasma volume, an increase in extracellular fluid (thiocyanate space) and reduced serum total protein and serum albumin, when compared with healthy adults. These changes were more marked in those patients who were considered to be in poor condition, by the criteria used.

Rohbeck, Magdalena: Die Diffusion von Sulfonamiden durch die lebende Hornhaut von Kaninchen. Klin. Monatsbl. f. Augenh. **117**(4): 405-415, 1950.

(From Univ.Augenklinik der Charite Berlin.)

Diffusion of dissolved substances through the living cornea depends on the duration of action. In the high grade hypertonic solution it can be demonstrated after a few minutes, in the low grade hypertonic and in isotonic solutions it does not occur until after 40 minutes. The diffusion of solutions of a high enough concentration to cause corneal damage, can be increased by increasing the duration of action, while those solutions which show a slight degree of diffusion can be maintained at a constant level after a definite time as a result of the same degree of removal by the aqueous. The optimum duration of action, as was determined for the various concentrations at the different levels and described in Chapter 2 of this work, is about 40 minutes for a concentration of about 10 mg. %. This should not last longer out of consideration for the patient. The thicker the cornea the less the diffusion. Corneal lesions, and corneal infiltrates favor diffusion to a high degree. Local use of sulfonamides in the form of the eyebath in comparison with other types of application were not only jusified but advantageous in the experiments described. The author reports interesting details with respect to method, investigation, calculation of curves and other findings.

Goldsmith, Grace A.: The diagnosis and treatment of macrocytic anemia. New Orleans M. & S. J. **103:** 309-316, Jan. 1951.

(From Tulane University School of Medicine, New Orleans.)

The primary prerequisite for proper management of macrocytic anemia is accuracy of diagnosis, which involves accurate hematologic study, including estimation of mean corpuscular volume and mean corpuscular hemoglobin concentration, and careful clinical examination to determine the etiologic factors responsible for the development of the anemia. Treatment is dependent on the type of macrocytic anemia observed. Pernicious anemia may be satisfactorily treated by the parenteral administration of liver extract or vitamin B_{12}. Therapy must be continued throughout the rest of the patient's life. Treatment of macrocytic anemia other than pernicious anemia must be individualized. Indications for the use of folic acid, vitamin B_{12} or liver extract are discussed.

McLeod, Mary Margaret: Allergic rhinitis. North Carolina M.J. **12:** 9-12, Jan. 1951.

In disease of the upper respiratory tract allergy is the most important single etiologic factor. The history, physical examination and cytologic studies of the nasal secretions are the basis of diagnosis. Skin tests and careful clinical observations will reveal the offending allergens in most cases. Perhaps preventive treatment begins before the child is born with supervision of the pregnant woman's diet. Careful supervision of diet and environment during early life delays the onset of allergic symptoms. Once the allergens are discovered, a program of avoidance, hyposensitization and general hygiene, combined with antihistamines, local decongestants, chemotherapy and surgery, and radiation therapy as indicated, will enable most of these children to develop normally and to avoid many of the complications and sequelae of allergic rhinitis.

Brown, Madelaine Ray: The incidence and heredity of muscular dystrophy; a study of seventy-one patients admitted to the Massachusetts General Hospital. New England J.Med. **244:** 88-90, Jan. 18, 1951.

(From Massachusetts General Hospital, Boston.)

In New England, hereditary muscular dystrophy is not partial to any one nationality of the white race. Though the diagnosis was not frequent in early records of the hospital, the last two decades have seen a marked increase. There was no evidence of Mendelian dominant inheritance among the patients with facioscapulohumeral atrophy similar to that in the large Utah "kindred." The inheritance of the three types of muscular dystrophy in this series was recessive. Other hereditary defects found were pes cavus (5 patients), pes equinovarus (2 patients), feeblemindedness (3 patients) and progressive nerve deafness (3 patients).

Campbell, W. A. B., Cheeseman, E. A., and Kilpatrick, Anne W.: The effects of neonatal asphyxia on physical and mental development. Arch. Dis. Childhood, **25:** 351-359, Dec. 1950.

(From Departments of Child Health and Social and Preventive Medicine, Queen's University, Belfast, and Royal Maternity Hospital, Belfast.)

An attempt was made to examine the present physical and mental condition of all children born during the years 1938 to 1941 in the Royal Maternity Hospital with severe asphyxia neonatorum (89 children) and of a group of unselected controls (178 children). The data here and analysis of it, contrary to the impression gained from most other works, give no support for the hypothesis that asphyxia neonatorum is a common cause of later mental or physical retardation. One other investigation from the literature, which was briefly reviewed by the authors, led to similar results with reference to intelligence rating (McPhail and Hall, 1941).

Asher, Patria, and Schonell, F. Eleanor: A survey of 400 cases of cerebral palsy in childhood. Arch. Dis. Childhood, **25:** 360-379, Dec. 1950.

(From Department of Paediatrics and Child Health, University of Birmingham, and Birmingham Institute of Child Health.)

This group of children from the Midlands seemed to be a representative sample of all types of cerebral palsy. The incidence among the school-age population of certain towns is probably about one per 1,000. The authors discuss the types, their incidence, the etiology and other findings. An examination of the attainment in reading of the normally intelligent and bright children revealed a very considerable degree of retardation and suggests that special educational provision is necessary to create the necessary stimulus for many cases to develop their capacities beyond mediocre levels.

Corner, Beryl D.: Reiter's syndrome in childhood. Arch. Dis. Childhood, **25:** 398-403, Dec. 1950.

(From Department of Child Health, Bristol University, and Bristol Royal Hospital for Sick Children.)

A review of the literature shows that this condition has been rarely reported in childhood. An account of the only three other cases reported in detail in children under the age of 12 years is given and the relationship to dysentery indicated. A typical fairly severe case in a 9-year-old English boy is described in detail. It is suggested that following epidemics of dysentery, this condition may be found less rarely in childhood if a search is made for minimal clinical manifestations.

Mindell, E. R., and Sherman, Mary S.: Late results in Legg-Perthes disease. J. Bone & Joint Surg. **33:** 1-23, Jan. 1951.

(From Department of Surgery, Division of Orthopaedic Surgery, University of Chicago.)

In this study based on 72 patients with 78 involved hips, there was a wide variation in the severity of the process in the natural course of the disease. Marked changes in the femoral neck and lateral expansion or central depression of the femoral head indicate a bad prognosis. In general the younger the patient at the onset of the disease, the better the prognosis. Premature symmetrical or asymmetrical growth arrest of the capital femoral epiphyseal cartilage plate may occur and contribute to the deformity. In the presence of gross changes on the roentgenograms, there may be a few or no symptoms in early adult life. However, as the patient becomes older, progressive disability does occur. Therefore patients should be treated, and treated early. Inasmuch as there seems to be no significant difference in the results obtained by ambulatory or non-ambulatory treatment, non-weight-bearing on crutches is sufficient in a cooperative patient with unilateral involvement.

Kenn, Marie-Luise: Rachitisprophylaxe Fruhgeborener durch einmalige Injektion Kleiner Dosen von Vitamin D [Prophylaxis against rickets by single injection of small doses of vitamin D in premature infants.] Monatsschr. f. Kinderh. **98:** 479-481, Nov. 1950.

(From Universitats-Kinderklinik, Freiburg i. Brsg.)

Forty premature infants were prophylactically injected with 6250 E of vitamin D_2 and D_3 preparations, intramuscularly. They were observed for 6-8 months in the clinic and by x-rays. Rachitic changes of the epiphyses appeared on x-ray examination in only one of the D_3-treated children and in 7 nursing infants treated with D_2. The author did not give these children cod liver oil and ascorbic acid enriched milk in addition to the vitamin D and so was able to study the completely isolated effect of the vitamin D. From the results, D_3 seems to be prophylactically indicated. However, when signs of rickets have already appeared intramuscular administration is contraindicated since as a depot, so to speak, it has a scattered distribution, while oral administration has an immediate complete effect. The children thrived and overcame catarrhal infections successfully with the vitamin D treatment.

Dodd, Katharine: Parenteral fluid therapy in acute illness in infancy and childhood. Postgrad. Med. **9:** 40-43, Jan. 1951.

(From Children's Hospital Research Foundation and Department of Pediatrics, College of Medicine, University of Cincinnati.)

In this discussion the author considers the administration of fluids for subcutaneous use, for use with vomiting, diarrhea and for maintenance. The physiology of fluid intake is briefly discussed, while laboratory tests for loss of fluid, and the loss of salts is considered in more detail. Proper treatment to replace the salts lost is also mentioned with the results obtained.

Smith, Margaret, H.D., Dormont, R. E., and Prather, G. W.: Subdural effusions complicating bacterial meningitis. Pediatrics, **7:** 34-43, Jan. 1951.

(From Department of Pediatrics, Tulane University School of Medicine, Louisiana State University School of Medicine, and The Charity Hospital of Louisiana, New Orleans.)

Twenty cases of subdural effusion occurring in infants under 14 months during their convalescence from acute bacterial meningitis due to H. influenzae type b, D. pneumoniae, paracolon bacillus and Ps. aeruginosa, are present. At least 20 out of 43 cases of meningitis under the age of 2 years had fluid in the subdural space at some time during their hospital stay. The authors believe that subdural taps should be performed on admission for diagnostic purposes whenever the patient has been treated with antibiotics before coming to the hospital, has had no organisms in the spinal fluid when first seen, as well as in all patients who give evidence of prolonged fever, focal neurologic signs, convulsions, etc., following meningitis. Various factors such as age, pathogenesis, diagnosis, are discussed in detail with consideration of cases reported in the literature.

Sisson, T. R. C., Emmel, Anne F., and Filer, L. J., Jr.: Meat in the diet of premature infants. Pediatrics, **7:** 89-109, Jan. 1951.

(From Departments of Pediatrics and Anatomy, University of Rochester, School of Medicine and Dentistry, Rochester.)

Meat protein is as well retained and utilized as milk protein by the premature infant and is therefore as safe and efficient a source of protein as milk. The fat absorption of the premature infant is not significantly altered when the milk fat in the diet is partly or wholly replaced by meat fat or meat fat and olive oil. Strained meats do not contain a sufficient quantity of Ca and P to maintain an adequate intake of these minerals for the premature infant without further supplementation. However, they are an excellent and readily available source of Fe. The Fe of meat is absorbed by the premature infant but how well it is stored and utilized requires further investigation.

Greenacre, Phyllis: General problems of acting out. Psychoanalyt. Quart. **19**(4): 455-467, 1950.

(From New York Hospital and Department of Psychiatry, Cornell University Medical College, New York.)

The interpretation of acting out and the techniques for its management are considered.

Blank, H., Buerk, Minerva, and Weidman, F.: The nature of the inclusion body of verruca vulgaris: a histochemical study of nucleotids. J. Invest. Dermat. **16:** 19-29, Jan. 1951.

(From Department of Dermatology, University of Pennsylvania School of Medicine, and Children's Hospital of Philadelphia, Department of Pediatrics.)

This paper reviews the established evidence for much of the present knowledge of warts, and reports the results of an investigation of some of the important chemical changes which occur in the infected epithelial cells. The findings aid in making an accurate diagnosis microscopically of the disease and provide evidence for a mechanism of virus multiplication.

Mellanby, May, and Mellanby, Helen: Further study of the teeth of 5-year-old children in residential homes and day schools. Brit. M.J. **1:** 51-57, Jan. 13, 1951.

The new results in this paper are compiled from the individual dental charts of a survey in 1950 of 542 children aged 5 years living in homes (orphanages and institutions) and 560 children of the same age attending independent and private day schools, mainly in London and surrounding counties. Suggestions are made to account for the differences found in structure and caries incidence in the two groups and for the change occurring between 1945 and 1950.

Birch, C. A., and Till, Morwenna: Iron encephalopathy Brit. M.J. **1:** 62-63, Jan. 13, 1951.

(From Chase Farm Hospital, Enfield.)

A case is reported of severe cerebral symptoms in a woman aged 54 after intravenous administration of 380 mg. of iron in nine days. The symptoms are tentatively ascribed to iron encephalopathy, but the mechanism of their production remains in doubt. The danger of using unproved preparations is emphasized.

Tom, Mary I., and Richardson, J. C.: Hypoglycaemia from islet cell tumor of pancreas with amyotrophy and cerebrospinal nerve cell changes; a case report. J. Neuropath. & Exper. Neurol. **10:** 57-66, Jan. 1951.

(From Departments of Medicine and Neuropathology, University of Toronto and Medical Service, Toronto General Hospital.)

The severe cerebral anoxic changes in this case resulted in dementia, dysphagia, cortical visual disturbances, and a terminal mild hemichorea. The unique and most interesting feature was a pronounced widespread degeneration of the ventral horn cells of the spinal cord, resulting in a paralysis and wasting of distal limb muscles. In a review of the literature, the authors were unable to find another human case of hypoglycaemia in which extensive lesions of the lower motor neurons with consequent muscle atrophy were proven at autopsy.

MacKenna, R. M. B., and Macalpine, Ida: Application of psychology to dermatology. Lancet **1:** 65-68, Jan. 13, 1951.

(From Dermatological Department, St. Bartholomew's Hospital, London.)

The authors discuss the differences between the two approaches to the subject and the actual task of the clinical psychologist to a skin department. Some scientific methods suitable for such work are examined.

Topley, Elizabeth; Lowbury, E. J. L., and Hurst, L.: Bacteriological control of aureomycin therapy. Lancet **1:** 87-89, Jan. 13, 1951.

(From Medical Research Council Burns Unit, Birmingham Accident Hospital.)

The detection of aureomycin in burn exudates by a blotting-paper-disc-plate assay method is described. The sensitivity of this test was enhanced by using agar plates at pH 5-6 and incubating the test plates at 25 C. The method has the advantage of being applicable to 0.02 ml. quantities of contaminated fluids. This method detects organisms resistant to 0.05 micron of aureomycin per ml.

Schmideberg, Melitta: Infant memories and constructions. Psychoanalyt. Quart. **19**(4): 468-481, 1950.

The author discusses the various aspects of the approach to the problem of reconstruction of the mental processes of early infancy. Dogmatic assertions, giving the impression that they are better substantiated than they actually are, only impair the value of hypotheses. On the other hand it would be regretable to renounce this important approach to the study of what is still largely a terra incognita, the mind of the infant. Imagination must be used in the constructions but this must be tempered with skepticism.

Macalpine, Ida: The development of the transference. Psychoanalyt. Quart. **19**(4): 501-539, 1950.

Attention is drawn to the absence of a clear understanding of the fundamental concept of analytic transference and the reasons for this deficiency are outlined, with demonstration of discrepancies and uncertainties about the term. Despite fundamental differences of opinion about the nature of transference there is a surprising unanimity and full accord about the causation of the transference manifestations. These are held to arise spontaneously within the analysand (the neurotic). A hypothesis is presented disputing the spontaneous emergence of transference. This is discussed and conclusions are drawn regarding stages in analysis, and a definition of "transference neurosis" is advanced.

Furman, R. A., Hellerstein, H. K., and Starzman, Viola V.: Electrocardiographic changes occurring during the course of replacement transfusions. J. Pediat. **38:** 45-50, Jan. 1951.

(From Department of Pediatrics and Department of Medicine, Western Reserve University School of Medicine and Babies and Children's Hospital, Cleveland.)

Serial electrocardiograms during the course of replacement transfusions in six patients revealed: development of changes characteristic of hypocalcemia; reversal of these changes by intravenous administration of 1 gm. of calcium gluconate; appearance of changes of hypercalcemia when the calcium administration required less than five minutes. The detection of a reduction of ionized calcium by the electrocardiogram in the presence of a normal or elevated serum calcium is demonstrated.

Johnson, Eloise Eberling, Warner, Mary, and Simonds, J. P.: Total absence of the cerebral hemispheres; report of two cases. J. Pediat. **38:** 69-79, Jan. 1951.

(From Department of Pathology of Children's Memorial Hospital and the Otho S. A. Sprague Institute, Chicago.)

In the 2 cases reported the infants reached the ages of 20 and 40 days, respectively. The weights of the brains were only 10 and 11 percent of the normal for the age. The differential diagnosis of subdural hematoma, toxoplasmosis of the brain, hydrocephalus, and total cerebral agenesis is discussed.

Campbell, Winona G.: Diagnosis of poliomyelitis. Arizona Med. **8:** 25-36, Jan. 1951.

(From Department of Pediatrics, University of Colorado School of Medicine.)

This thorough discussion of the diagnosis of poliomyelitis is supported by clinical data on 303 patients admitted to the Colorado General Hospital during the epidemic of 1946.

Taran, L. M., and Szilagyi, Nelly: The Q-T interval in rheumatic disease in children. Brit. Heart J. **13:** 10-16, Jan. 1951.

(From St. Francis Sanatorium for Cardiac Children, Roslyn, L. I.)

In 140 boys and girls 6-16 years of age, observed during a total period of almost 180 patient-years, the duration of the electrical systole (QT interval) was studied in relation to the progressive heart disability. A close correlation existed between the duration of the QT interval and the extent of cardiac disability resulting from acute rheumatic carditis. The longer the time during which the electrical systole remained abnormally prolonged, the more extensive the total cardiac damage. This disturbance in the normal sequence of events in the cardiac cycle in acute rheumatic carditis in children may be used as a valuable aid in prognosticating the extent of cardiac damage resulting from carditis.

Chang, C. Ellen, and Hu, J.: Angioid streaks and pseudoxanthoma elasticum. Chinese M.J. **68:** 290-296, Sept.-Oct. 1950.

(From Department of Ophthalmology, West China Union University, Chengtu.)

The literature is reviewed and two cases of angioid streaks with pseudoxanthoma elasticum showing all the characteristic features of the disease, are reported. The authors believe that these two are among the first reported from China.

Cuyler, W. K., Kaufmann, L. A., **Turner, Violet H.,** and Parker, R. T.: Reliability of Papanicolaou's cancer detection technic. South. M.J. **44:** 52-56, Jan. 1951.

(From Robert E. Seibels, Jr., Memorial Laboratory, Department of Obstetrics and Gynecology, Duke University School of Medicine and Hospital, Durham.)

Data on 4 patients are presented in this report to illustrate that exfoliated cells of uncommon genital cancer may be found in smear preparations; genital tumor cells which would not be expected to appear in vaginal or cervical smears, are in fact, occasionally present; cancer cells originating in abdominal lesions metastatic from other systems likewise may be found in genital smears; cells may be recognized as malignant by the cytologist but the type of cancer may not be identified; repeated cytologic interpretations of malignancy in spite of negative clinical and pathologic findings may be verified ultimately by pathologic study through continued efforts of the clinician.

Peterson, E. W., Bickers, D. S., and **Scherrer, Jean:** Observations on the reduced nervous system. Tr. Am. Neurol. A. **75:** 231-233, 1950.

Observations on decorticate cats are described.

Shinners, B. M., and **Krauss, Ruth F.:** Neurologic and electroencephalographic evaluation of encephalitis in children. Tr. Am. Neurol. A. **75:** 205-208, 1950.

In this paper, 72 cases of encephalitis in children following childhood diseases, including measles (34 cases); mumps (9); chickenpox (5) and non-specific diseases (24—1 herpes) are considered. Of these children, 65% were under 10 years of age and 33% under 5 years.

Kennard, Margaret A., Haugen, F. P., and Livingston, W. K.: The pattern of subcutaneous sensitive areas as related to pain of thoracic visceral origin. Tr. Am. Neurol. A. **75:** 198-201, 1950.

Fifty-two patients entering the hospital for heart conditions associated with acute pain were examined and a control group of like age on the same wards but, without known cardiac disease. The painful trigger areas, sites of predilection and other findings are described.

Caveness, W., Parsonage, M. J., and **Edmonds, Marjorie W.:** Convulsive seizures coincident with sleep. Tr. Am. Neurol. A. **75:** 155-158, 1950.

Attention is redirected to that segment of convulsive disorders characterized by seizures coincident with sleep. One effective mode of treatment includes an anticonvulsant without sedative side effect, plus a stimulant so prepared that its action extends throughout the sleeping period. From electroencephalography it is noted that a prominent number of the seizures arise from a background of medium and high voltage slow waves, associated with deep sleep. While this does not represent the complete explanation of the seizures, it probably represents some of the significant elements.

Graham, D. T., **Goodell, Helen,** and Wolff, H. G.: Itch sensation in the skin; experimental observations on the neural mechanisms involved. Tr. Am. Neurol. A. **75:** 135-137, 1950.

Two components of the sensation of itching could be analyzed. These are described.

Swank, R. L., and **Backer, Julie:** The geographic incidence of multiple sclerosis in Norway. Tr. Am. Neurol. A. **75:** 274-275, 1950.

The various parts of Norway were surveyed. There were various breakdowns of the findings, e.g., rural and urban populations, etc. The effect of low fat diet is being studied with respect to the incidence of multiple sclerosis.

Leikin, S., Sowers, Muriel, and Howard, W. A.: Leukemoid reaction. Clin. Proc. Child. Hosp. **7:** 14-21, Dec. 1950.

A case of leukemoid reaction in a two month old infant is presented with discussion of the literature.

Peters, Hannah, and Benjamin, J. A.: The prostatic smear; cell changes after estrogen therapy. Surg., Gyn. & Obst. **91:** 660-668, Dec. 1950.

(From Divisions of Cancer Research and Urology,

Department of Surgery, The University of Rochester School of Medicine and Dentistry, Rochester, N. Y.)

Cell changes occurring in the prostatic smear after estrogen therapy are described. A correlation of the clinical response to estrogen therapy and of the cytologic findings in the prostatic smear was made in 18 cases of carcinoma of the prostate. It is suggested that cell changes in the prostatic smear can be used as an additional guide in the hormonal treatment of carcinoma of the prostate.

Bakwin, H., and Ross, Lucille J.: Fifty years of pediatrin New York State. New York State J. Med. **51:** 78-82, Jan. 1, 1951.

(From Department of Pediatrics, College of Medicine, New York University-Bellevue Medical Center.)

The achievements of the outstanding workers during this period are described.

Knox, Leila Charlton: The progress of pathology in New York State during the last half century. New York State J. Med. **51:** 145-147, Jan. 1, 1951.

(From Department of Pathology, St. Luke's Hospital, New York.)

The achievements and developments of this period are described.

Geary, J. R., and Frantz, Virginia Kneeland: New absorbable hemostatic bone wax; experimental and clinical studies. Ann. Surg. **132:** 1128-1137, Dec. 1950.

(From Department of Surgery and Surgical Pathology Laboratory, College of Physicians and Surgeons, Columbia University, New York.)

Laboratory tests of this bone wax with rats indicated that the new material is much less irritating to the tissues than ordinary bone wax and is completely absorbed in three hours. In experimental rib fractures in dogs both the new material and ordinary bone wax caused some delay in healing. However, it is felt this is not of any practical significance. The use of the new absorbable hemostatic bone wax in the first 100 clinical neurosurgical operations at the Neurological Institute of New York has been reported. No ill effects or complications attributable to the material have been noted.

Dockerty, M. B., and Mussey, Elizabeth: Malignant lesions of the uterus associated with estrogen-producing ovarian tumors. Am. J. Obst. & Gyn. **61:** 147-153, Jan. 1951.

(From Division of Surgical Pathology, and Section on Obstetrics and Gynecology, Mayo Clinic, Rochester, Minn.)

Sixteen cases are presented in which functioning (feminizing) ovarian tumors were associated with the presence of uterine carcinoma. The association was much more frequent than could be explained on the basis of chance alone. Carinogenic influence of estrogen is suggested as a possible cause. The prevalent literature is briefly reviewed.

Coombs, H. I., Ikin, E. W., Mourant, A. E., and Plaut, Gertrude: Agglutinin anti-S in human serum. Brit. M.J. **1:** 109-111, Jan. 20, 1951.

(From St. Bernard's Hospital, Southall; Medical Research Council Blood Group Reference Laboratory, Lister Institute; and North London Blood Supply Depot, Barnet.)

A case is described in which anti-S seems to have occurred spontaneously and was discovered in a direct-matching test in preparation for a transfusion. The serum from this case has proved to be a valuable testing reagent for the S factor. Previous work on the occurrence of anti-S in human serum is summarized.

Dodge, Eva F., and Brown, W. E.: The effect of age upon obstetric complications in the primigravida. South. M.J. **43:** 1060-1067, Dec. 1950.

(From Department of Obstetrics and Gynecology, University of Arkansas School of Medicine, Little Rock.)

A survey of 3198 primigravida patients suggests that the safest age period for reproduction is 17-21. The incidence of complications showed a gradual increase from the 17-21 age group, having the lowest rates toward both extremes of age. Both the "very young" and the elderly primigravida undertake their first pregnancy with somewhat increased hazards.

Connor, Angie, and Yoshina, T.: Rheumatic fever in Hawaii. Hawaii M.J. **10:** 181-182, Jan.-Feb. 1951.

Hawaiian and part-Hawaiian children seem particularly susceptible to rheumatic fever which is common in Hawaii. The onset with carditis is insidious and the joint manifestations are relatively mild. Rheumatic nodules were not found in the series studied. The rate of rheumatic recrudescences is high. Cardiac enlargement and valvular lesions are common sequelae.

Huntington, P. W., Jr., and Dunbar, Anne C.: Testicular tumors; report of two cases. Delaware State M.J. **23:** 1-8, Jan. 1951.

(From Delaware Hospital, Wilmington.)

Two cases of teratocarcinoma and seminoma are reported. Testicular tumors most frequently occur during the active sexual life of the patient. These tumors are classified here on the basis of three fundamental histologic patterns: seminoma, teratoma, and carcinoma. This assists further study. The relationship of hormones to testicular tumors is reviewed and their significance as a prognostic aid evaluated. Current methods of treatment are briefly summarized.

Eisen, M. E., Tyson, Mary Catherine, Michael, S., and Baumann, F.: Adhesiveness of blood platelets in arteriosclerosis obliterans, thromboangiitis obliterans, acute thrombophlebitis, chronic venous insufficiency and arteriosclerotic heart disease. Circulation, **3:** 271-274, Feb. 1951.

(From Peripheral Vascular and Hematology Departments of The Mount Sinai Hospital, New York.)

Total and adhesive platelet counts were made on normal individuals and on patients with myocardial infarction, thromboangiitis obliterans, and other peripheral vascular diseases. Tests were made in several cases while patients smoked and after abstaining from tobacco. Repeated tests were done while patients were receiving dicumarol anticoagulant therapy. A rise in adhesive platelet counts was found in cases of thromboangiitis obliterans, particularly with activity of the disease, and in cases of thrombophlebitis. Cessation of cigarette smoking in cases of thromboangiitis obliterans resulted in a significant decrease in platelet adhesiveness.

Gattung, Ilse: In Vitro-Versuche zur Rechtfertigung der klinischen Kombinations-Anwendung von Streptomycin und Penicillin. Ztschr. f. Kinderh. **69(1):** 26-36, 1951.

(From Universitats-Kinderklinik, Koln.)

Whether in combination, streptomycin and penicillin affect the action of each other (by means of synergism, potentiation, addition or antagonism) was investigated by the method of Vincent and Vincent. The following strains were tested. Pneumococcus I-II, Bacterium coli; Streptococcus haemolyticus; Staphylococcus aureus. In general the results showed additive effect. In Pneumococcus I to II, there were slight synergistic effects and also in the case of Streptococcus haemolyticus and Staphylococcus aureus with higher concentrations of the combinations. Neither potentiation nor antagonistic effects could be observed. There is a no reason for assuming that in combined therapy, the two drugs interfere with the effect of each other.

Kulz, Annemarie: Psychologische Veranderungen beim Kinde im Verlauf der Streptomycin-behandelten tuberkulosen Meningitis. Ztschr. f. Kinderh. **69:** 62-73, 1951.

(From Universitats-Kinderklinik, Frankfurt/Main.)

Twelve cases of psychiatric disturbances are reported after treatment of tuberculous meningitis in children with streptomycin. The types of changes are discussed and compared with changes found in other conditions.

Schmidt, W. M., and McKay, Florence L.: What constitutes a good program of health services for school children? Massachusetts Health J. **31:** 6-7, Jan. 1951.

(From Harvard University School of Public Health.)

The authors discuss health appraisals in the schools, medical care with regard to diagnosis and more importantly with regard to follow-up to see that treatment has been instituted. Mental health programs and the relationships between the school health staff and parents are also considered.

Lamotte-Barillon, S.: Anemia in women; a symposium, Part I, J.Am.M. Women's A. **6:** 1-8, Jan. 1951.

Holly, Pearl B.: Anemia in women; a symposium, Part II, J.Am.M.Women's A. **6:** 8-11, Jan. 1951.

This symposium was presented at the Sixth Congress of the Medical Women's International Association held in Philadelphia, September 1950. Part I summarized reports from the Latin countries; Part II those from the English speaking countries.

In Part I the concept of anemia in women was first discussed. This was followed by discussions of the different types of anemia—those due to excessive hemoglobin loss, including hemolytic anemias of occupational origin; anemias due to inadequate diet; the hypochromic anemias

occurring during puberty, pregnancy, and the menopause; and the hyperchromic anemias, in which the hypophysis seems to play an important part. The liver also has an important role in anemia. Hematologists have classified the various types of the condition, and studies of nutrition will now permit further penetration into their causative mechanisms.

Part II of the symposium presented statistics prepared from reports from various countries and emphasized the greater incidence of iron and nutritional deficiency anemia among adolescent girls and adult women and the importance of a well-rounded high protein diet with supplemental iron therapy during periods of increased red cell production. Improvement of the diet of mothers will result in decrease of moderate anemias in both mothers and young children; but even improved diet and iron therapy may not be sufficient to eradicate the condition. The source of excess blood loss must be controlled or if possible removed.

Seidelin, Gerda: Pathology and hygiene of housework; a symposium, Part I, J.Am.M.Women's A. **6:** 12-21, Jan. 1951.

Cassassa, M. T.: Pathology and hygiene of housework; a symposium, Part II, J.Am.M.Women's A. **6:** 21-24, Jan. 1951.

This symposium also was presented before the Medical Women's International Association. Part I included the answers from 13 countries to a questionnaire as to the diseases common in domestic workers and means being taken to prevent them; and also as to the hygiene of housework, such as the length of working hours; the housing problem; the obtaining of help for housewives and in institutions, particularly those caring for children; the diet of housewives and domestic workers; the loneliness of the latter; and provisions for organized exercise, vacations, and sick aid. Dr. Seidelin found that few statistical studies of conditions of housework have been made, but felt that among other things better arranged kitchens, better training in domestic science, and more attention to footwear would remedy some of the injurious conditions. She also found awareness of the necessity for training women for housework; and also pointed out that laws protecting domestic employees are far from uniform. In some countries workers are protected as to hours of work, minimum wages, annual leave, overtime, and other conditions.

In Part II it was brought out that it is not housework as such that is to be considered as injurious to health, but rather the circumstances under which it is performed. The working conditions and the quantity and duration of the work should be considered and their influence on the health of the worker studied. In some countries an effort is being made to give women in housework the same benefits as those enjoyed by women in work outside the home. From the medical viewpoint housework has not been the subject of systematic research, experimental, clinical, or statistical, and it would seem that such a study was a task for the MWIA, which has always shown interest in social problems.

Ruys, A. Charlotte: The Medical Women's International Association; its work and aims, J.Am.M.Women's A. **6:** 25-26, Jan. 1951.

Reid, Ada Chree: Medical women and international understanding, J.Am.M. Women's A. **6:** 27-28, Jan. 1951.

McGavack T. H., Shearman, Ann M., et al.: Newer antihistaminics: IV. Some pharmacologic and therapeutic effects of B-(P-bromo-benzhydryloxy)-ethyldimethylamine hydrochloride, a derivative of diphenhydramine hydrochloride. J. Allergy, **22:** 31-46, Jan. 1951.

(From New York Medical College, Metropolitan Hospital Research Unit, Welfare Island, New York.)

The pharmacologic and therapeutic effects of ambodryl (B-[4-bromobenzhydryloxy]-ethyldimethylamine hydrochloride) were studied in 34 normal individuals and 296 patients. These are described and compared with those of diphenhydramine hydrochloride and toladryl. Practical considerations are discussed.

Beerman, H., Nicholas, L., Ford, W. T., and Buerk, Minerva S.: Syphilis; a review of the recent literature. A.M.A. Arch. Int. Med. **87:** 287-322, Feb. 1951 [To be concluded].

(From University of Pennsylvania, Departments of Dermatology and Syphilology, School of Medicine; the Graduate School of Medicine, and the Institute for the Study of Venereal Disease.)

The period covered by this 15th annual review is from July 1, 1949 to July 1, 1950. In this part of the review the authors consider the history, T. pallidum and other treponemes, experimental syphilis, luetin, immunity, prognosis, diagnosis, nature of antigens, cerebrospinal fluid, clinical manifestations of early syphilis, reinfection, clinical manifestations of late syphilis, of cardiovascular syphilis, neurosyphilis, ocular syphilis, congenital syphilis, fever therapy, penicillin therapy, and present day treatment.

Watkins, Evelyn D.: Meningitis due to Leptospira canincola. Brit. M.J. **1:** 227, Feb. 3, 1951.

(From Plaistow Fever Hospital, London.)

In this case infection with L. canicola was proved retrospectively in both the patient and her bull-terrier.

Maengwyn-Davies, Gertrude D., and Friedenwald, J. S.: Histochemical studies of alkaline phosphatases in the tissues of the rat using frozen sections. I. J. Cell. & Comp. Physiol. **36:** 421-455, Dec. 1950.

(From Wilmer Ophthalmological Institute, Johns Hopkins University and Hospital, Balitmore.)

Using the histochemical alkaline phosphatase technique of Gomori and Takamatsu with fresh frozen sections, the existence in the tissue of a large number of substrate specific phosphatase enzyme systems can be demonstrated. These enzyme systems can be differentiated from one another by their different locations in the tissue, their different responses to various activators and inhibitors, by differences in their lyophobic or lyophilic character, and in some instances by the presence in the tissue of a readily extractable cofactor. No evidence was found for the existence in native tissue of a non-specific alkaline phosphatase capable of attacking indifferently a wide variety of substrates. The results obtained with each of the four polyglycol-mono-phosphate esters tested are described.

King, E. J., and Bain, Dorothy S.: A simplified silver iodate method for the determination of chloride. Biochem. J. **48:** 51-53, Jan. 1951.

(From Postgraduate Medical School, London.)

Using as a basis the silver iodate procedure of Haslewood and King (1936) the authors have developed a rapid and accurate method of estimating plasma chloride. The results obtained by this method were in good agreement with those of the methods of Van Slyke and Hiller (1947) and of Schales and Schales (1941).

Muir, Helen M., Perrone, J. C., and Popjak, G.: Studies on the metabolism of the circulating erythrocyte in the rabbit. Biochem. J. **48:** iv-v, Jan. 1951.

The results of these studies show that the cholesterol of the cell membrane is metabolically active, unlike the porphyrin of haemoglobin, where the isotope content remains unchanged during the life of the cell. The radioactivity of the porphyrin can therefore be used to show the extent of the blood regeneration following losses in sampling. The radioactivity of glycine was found to be similar to that of the glycine in the protein, which might suggest that protein and porphyrin are formed simultaneously. Thorell considers that protein is formed first. The contradiction is explained.

Conway, Nancy S., and Conway, H.: Vitamin B_{12} and folic acid in megaloblastic anaemia after total gastrectomy. Brit. M.J. **1:** 158-161, Jan. 27, 1951.

(From Department of Surgery and Gardiner Institute of Medicine, University of Glasgow, and the Western Infirmary, Glasgow.)

A case of megaloblastic anemia following total gastrectomy for the effects of corrosive poisoning is described. The pathogenesis of the anemia is discussed in the light of the classical theory of erythropoiesis. Striking clinical improvement followed vitamin B_{12} therapy but the hematological response was suboptimal. The addition of folic acid brought about complete hematological remission. The relationship of the anemia to other megaloblastic anemias as regards treatment with vitamin B_{12} and folic acid is discussed.

Sandys, Cynthia: A case of cornual pregnancy subsequent to salpingostomy. J. Obst. & Gynaec. Brit. Emp. **57:** 983-984, Dec. 1950.

(From Department of Obstetrics and Gynaecology, King's College Hospital, London.)

The notable features of this case are discussed.

EDITORIAL FORECAST

The September issue of the Journal will be the Annual Meeting number, including the minutes of the Meeting and special reports. The following articles will be presented:

"The Sexual Cycle and Personality," Therese Benedek, M.D. This is the Alice Stone Woolley Memorial Lecture.

"Coccidioidomycosis: A Disease Without a 'Natural History'," Helen Mackler, M.D.

"Recent Advances in the Field of Otolaryngology," Ella M. A. Enlows, Ph.D., M.D.

"Management of Acne Cysts," Natalie D. Goldberg, M.D., and the following special articles:

"The Time Is the Present," Inauguration Address, Amey Chappell, M.D.

"Esther Pohl Lovejoy, Recipient of the Blackwell Medal," Elizabeth Bass, M.D., and biographical sketches of the new officers of the American Medical Women's Association.

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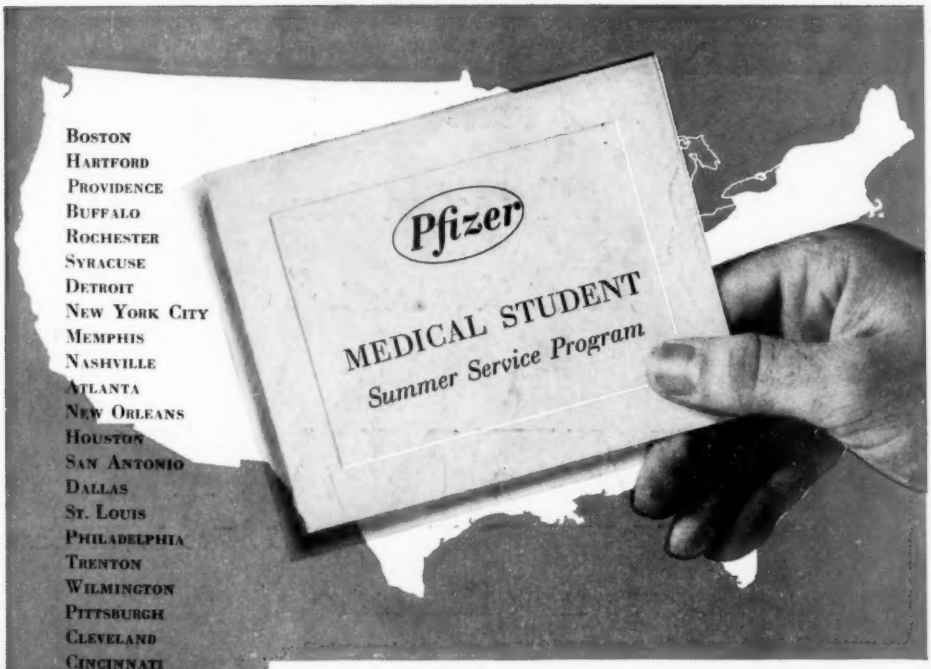

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